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RZ2-R05035.01.ID.010

ATKEARNEY

May 1, 1996

Mr. William Buller
Work Assignment Manager
U.S. EPA Region 5
77 W. Jackson, HRE-8J
Chicago, Illinois 60604

Reference: EPA Contract No. 68-W4-0006; EPA Work Assignment No. R05035; Corrective Action Document Review; Techalloy Company Inc., Union, Illinois; EPA ID No. ILD005178975; Review of the Draft Supplemental RCRA Facility Investigation (RFI), Off-Site Groundwater Report; Deliverable for Task 2

Dear Mr. Buller:

Please find enclosed A.T. Kearney's review of the Draft Supplemental RCRA Facility Investigation (RFI), Off-site Groundwater Report (Supplemental Report) for the above-referenced facility. The review consists of general and specific comments regarding the technical adequacy and accuracy of the Report as it relates to the off-site groundwater contamination northwest of the Techalloy facility. This review was performed contemporaneous to a review of Techalloy's responses to comments on, and revisions to, the RFI Report (submitted under separate cover). An electronic copy of the deliverable, formatted in Wordperfect 5.1 format is provided.

The supplemental off-site groundwater investigation was performed by Techalloy in an attempt to better define the extent of the off-site groundwater contaminant plume. The information from the supplemental investigation was also used to determine whether any modifications would be necessary for the interim measures (i.e., groundwater pump and treat) that are to be implemented off-site, northwest of the facility. In general, the Supplemental Report adequately describes the procedures used during the investigations and presents the results of said investigation. However, several relatively minor issues were noted during our review and our deliverable includes comments that will improve the supplemental report if the minor issues are addressed in a revision to the report.

Please feel free to contact me or the A.T. Kearney Work Assignment Manager, Mr. John Koehnen, at 312/223-6253 if you have any questions regarding this review.

Sincerely,

for P.B.D.

Patricia M. Brown-Derocher
Regional Manager

cc: F. Norling, RPO EPA Region 5
W. Jordan/Central Files
J. Koehnen
D. Walker
A. Williams

TECHALLOY COMPANY INC.
UNION, ILLINOIS
SUPPLEMENTAL RCRA FACILITY INVESTIGATION
OFF-SITE GROUNDWATER REPORT
U.S. EPA ID NO. ILD005178975

GENERAL COMMENTS

1. The Supplemental RCRA Facility Investigation, Off-site Groundwater Report (Supplemental Report) presents a significant volume of data acquired from groundwater samples off-site and to the northwest of the facility. However, the constituent names and concentrations reported for GW-5 on Figure 3-2 are not correct. Revise the figure by consulting Appendix A, pages 8 through 18 for well GW-5 for the correct concentrations. In addition, since at least one transcription error was noted, review the report and figures against the analytical results to ensure that the information presented is accurate.

2. The Executive Summary (page ES-2) and Section 3.2 (page 3-10) of the Supplemental Report state that the lateral and vertical extent of the plume have been delineated. The statement that the lateral extent of the plume has been defined is not entirely accurate since volatile organic constituents (VOCs) were detected at low concentrations in one or more sampling intervals at GW-4, GW-5, GW-8 and GW-9. Techalloy assumed that since only low concentrations of VOCs were detected in these "plume" perimeter sample points, the actual plume boundaries did not extend far beyond these points. Revise the statements to indicate that the lateral and vertical extent of the plume have been interpolated through the use of available analytical data and interpretive tools.

TECHALLOY COMPANY INC.
UNION, ILLINOIS
SUPPLEMENTAL RCRA FACILITY INVESTIGATION
OFF-SITE GROUNDWATER REPORT
U.S. EPA ID NO. ILD005178975

SPECIFIC COMMENTS

SECTION 1 INTRODUCTION

1.2 Background Information (Pages 1-2 to 1-7)

1. The first paragraph on page 1-2 of the Supplemental Report states that there are 13 monitoring wells on the Techalloy property and one off-site well that monitor the groundwater quality. These numbers disagree slightly from the total number of wells identified on the figures in the Supplemental Report. Figure 1-3 includes 14 on-site wells and one off-site well. This number may vary depending upon the status of the pump test well and observation well. If one of these wells is not actually used to monitor the groundwater quality, then identify the well accordingly. Otherwise, revise the text to account for all monitoring wells on the property.

SECTION 2 FIELD INVESTIGATION PROCEDURES (Pages 2-1 to 2-7)

2.1 LEAD SCREEN AUGER SAMPLING (Pages 2-1 to 2-4)

2. The description of the procedures used to conduct the borings northwest of the facility provided on page 2-1 of the Supplemental Report is incomplete. It was noted during a brief oversight visit to the facility by a U.S. EPA representative that the O-rings emplaced between the auger flights was not sealing. Hence, for at least a few boring locations, tape coated with a bentonite powder was placed between the male/female connection on the auger flight to potentially generate a seal. These procedures, in addition to any other procedures which may differ from those in the approved Quality Assurance Project Plan (QAPP), need to be documented in the Supplemental Report.

   In addition, the procedures described on the top of page 2-4 of the Supplemental Report which discuss the pre-sample purging of the temporary wells and the subsequent collection of the groundwater samples are not accurate. At the first few sampling locations in January 1996, the Grundfos Pump was not operable, due to generator problems. Therefore, a pre-sample purging of GW-3 and potentially GW-2 was performed with a (dedicated) disposable bailer. While this is not expected to impact the results, the Supplemental Report must be revised to describe the procedures followed during the pre-sample purging and the collection of groundwater samples. Revise the Supplemental Report as appropriate.

2.4 DECONTAMINATION PROCEDURES (Pages 2-5 to 2-7)

3. The Supplemental Report does not provide adequate detail regarding the decontamination of the equipment, specifically relating to the location selected for decontamination. Provide additional information which details the location of the decontamination area, the type of containment device(s) used to collect the resulting fluid/solids, and the procedures used to store, treat or dispose of the resulting investigation derived wastes. In addition, provide additional details on the procedures employed to prevent contamination of clean equipment during transport, or by incidental contact with other equipment which may have already been used. Revise the Supplemental Report as appropriate.

SECTION 3 RESULTS OF THE GROUNDWATER SAMPLING ACTIVITIES (Pages 3-1 to 3-19)

3.3 CHLORINATED HYDROCARBON DEGRADATION (Pages 3-10 to 3-11)

4. The statement made on page 3-11 of the Supplemental Report implies that degradation has been occurring on the organic constituents within the plume. This statement should be revised to indicate that natural degradation through co-metabolism processes is occurring. However, the degradation appears to be very limited since the process has not progressed to vinyl chloride, which is typically considered an indicator of progression of the degradation process. Revise the Supplemental Report to clarify the (potential) degradation process and to identify key steps in the process.

SECTION 4 CONCLUSIONS (pages 4-1 and 4-2)

5. The conclusions section of the Supplemental Report provides only a limited overview of the results of the Supplemental activities. Additional information should be presented which indicates how the resulting information will be applied to define future activities and/or affect the scope and nature of the interim measures that will be performed. Revise the Supplemental Report to include additional interpretation of the investigative results.

D27

Techalloy
Company, Inc.

Union, Illinois

SUPPLEMENTAL RCRA FACILITY INVESTIGATION OFF-SITE GROUNDWATER REPORT

TECHALLOY COMPANY, INC.
UNION, ILLINOIS

March 1996

DRAFT

SUPPLEMENTAL RCRA FACILITY INVESTIGATION
OFF-SITE GROUNDWATER REPORT
TECHALLOY COMPANY, INC.
UNION, ILLINOIS

Prepared for

TECHALLOY COMPANY, INC.
Union, Illinois

March 1996

Jameel Ahmed, P.G.
Associate Geologist

Carlos J. Serna, P.G.
Senior Project Manager

John W. Thorsen, P.E.
Project Director

Prepared by

ROY F. WESTON, INC.
Three Hawthorn Parkway
Vernon Hills, Illinois 60061

Work Order No. 01989-022-001

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EXECUTIVE SUMMARY

A groundwater investigation was conducted by Roy F. Weston, Inc. (WESTON®) (in December 1995 and January 1996) to further delineate the lateral and vertical extents of the off-site volatile organic carbon (VOC) plume originating from the Techalloy Company Inc. (Techalloy) Union, Illinois facility. This investigation was conducted to provide supplementary information to the Phase I (September 1994) and Phase II (March 1995) Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI).

Groundwater samples were collected using a lead-screened auger at a total of nine borings. The samples were analyzed for VOCs using EPA Method 8240. Eight of these borings were in the vicinity of the Union and Highbridge Road intersection and one was located near the intersection of Route 176 and Millstream Road. A total of 33 groundwater samples were collected. At five of the nine borings, samples were collected at 15 foot depth intervals. At the other four borings, groundwater samples were collected from the top and the bottom of the aquifer. The samples from the top of the aquifer were collected at a shallow depth of 15 feet bgs. The bottom samples were collected from the base of the aquifer slightly above the sand and gravel and the silty clay/till interface.

A total of 7 VOCs were detected in 20 of the 33 groundwater samples collected. The VOCs detected and their concentration ranges include:

- 1,1-Dichloroethene (1,1-DCE) ranging from 1J to 180 μg/L.
- 1,1-Dichloroethane (1,1-DCA) ranging from 3J to 450 μg/L.
- 1,2-Dichloroethane (1,2-DCA total) ranging from 2J to 58 μg/L.
- 1,1,1-Trichloroethane (1,1,1-TCA) ranging from 2J to 1,300 μg/L.
- Trichloroethene (TCE) ranging from 1J to 1,100 μg/L.
- Tetrachloroethene (PCE) ranging from 5 to 150 μg/L.
- 1,1,2-Trichloroethane (1,1,2-TCA) ranging from 1J to 2J μg/L.

The lateral and vertical extents of the plume have been delineated. The plume has migrated northwest approximately 6,000 feet from the Techalloy facility. The depth of the plume along the axis downgradient and off-site from Techalloy is approximately 85 to 87 feet. The lateral extent of the plume ranges from 400 to 600 feet wide at the Techalloy property to approximately 1,600 feet wide at the downgradient portion of the plume.

SECTION 1
INTRODUCTION

Roy F. Weston, Inc. (WESTON®) was contracted by Techalloy Company, Inc., (Techalloy) to conduct an additional off-site groundwater investigation at the Techalloy facility in Union, Illinois. This investigation was conducted to provide supplementary information to the Phase I and Phase II Resource Conservation and Recovery Act (RCRA) Facility Investigations (RFIs) conducted by WESTON in August 1994 and March 1995, respectively. This report presents the work completed in accordance with the applicable protocols documented in the Quality Assurance Project Plan (QAPP) and approved by the United States Environmental Protection Agency (U.S. EPA).

1.1 OBJECTIVE

The purpose of this additional investigation was to further delineate the off-site extent of the volatile organic carbon (VOC) constituent plume originating from the Techalloy facility. The objectives of this additional investigation were to:

- Delineate the vertical and lateral extent and magnitude of the VOCs migrating in the off-site groundwater further downgradient in the northeast and northwest areas of the intersection of the Union Road and O'Cock Road.
- Determine if the VOC plume has migrated downgradient to within the vicinity of Route 176, potentially impacting residential wells along Route 176.
- Confirm the placement of the extraction well and downgradient monitoring wells at the leading edge of the plume.

WESTON fulfilled these objectives by performing investigative tasks on 5 December 1995 and 22 January through 31 January, 1996. The tasks included conducting lead screened auger groundwater sampling at eight borings in the vicinity of the intersection of Union and Highbridge Roads and at one boring at the intersection of Route 176 and Millstream Road.

The field investigation procedures implemented during this investigation are presented in Section 2. The results of the groundwater samples collected during the investigation are presented in Section 3. Section 4 presents the conclusions.

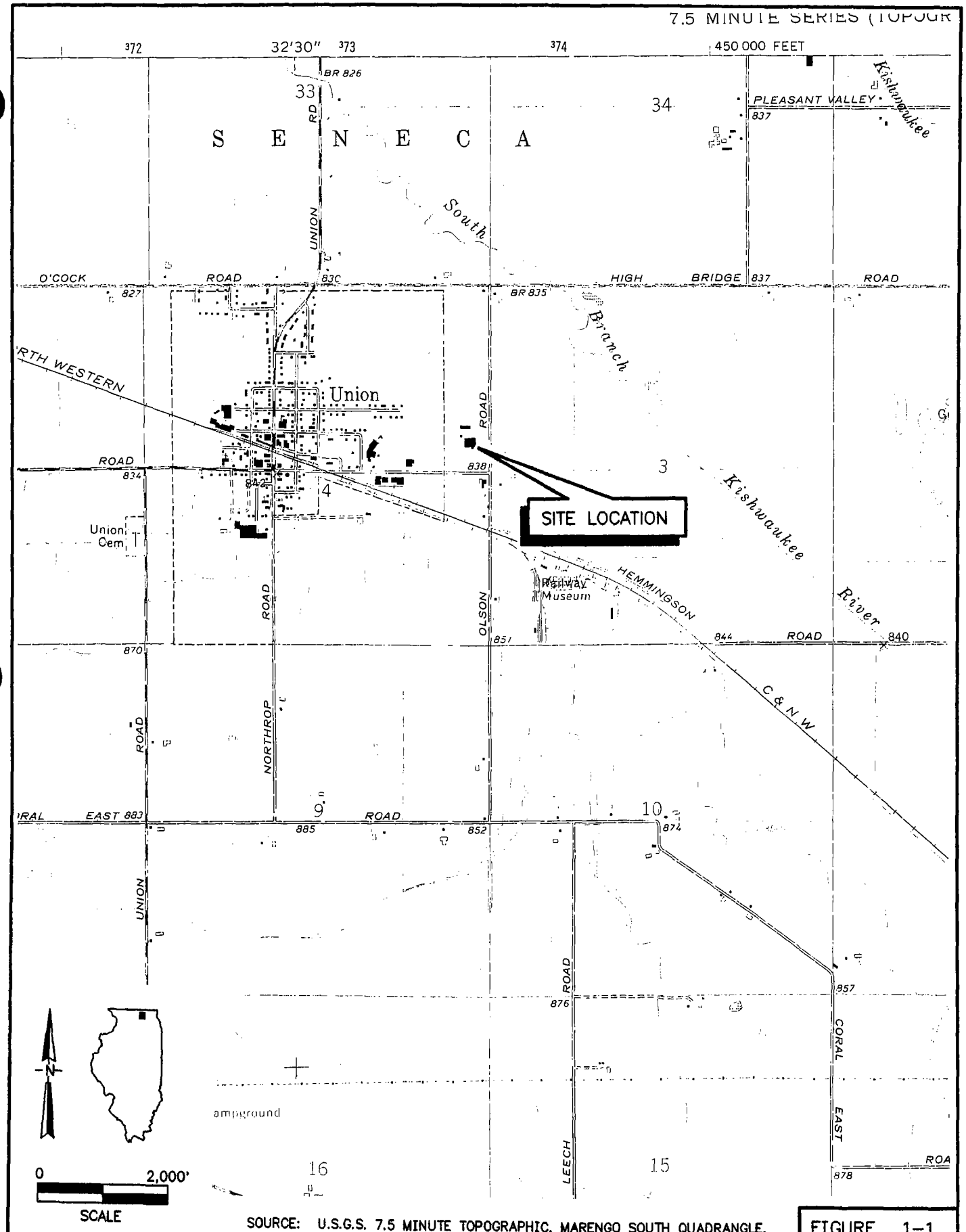
1.2 BACKGROUND INFORMATION

The Techalloy facility is located at the intersection of Olson and Jefferson Roads in the Village of Union, Coral Township, McHenry County, Illinois. The Techalloy facility is located in the SE ¼ of Section 4, Township 43 North, Range 6 East (Figure 1-1). The developed portion of the facility occupies five acres. The Techalloy facility has an additional 29 acres of agricultural land to its north and west. There are a total of 13 wells within the Techalloy property limits and one additional off-site monitoring well to monitor the groundwater quality.

The site history detailing the manufacturing activities, waste generation and disposal, and the regulatory history are presented in detail in the RFI Report (Draft) submitted to the U.S. EPA and to the Illinois Environmental Protection Agency (IEPA) in August 1995.

1.2.1 Summary of Previous Investigations

Techalloy began operations at the Union, Illinois facility in 1960. On 15 August 1980, Techalloy filed a Notification of Hazardous Waste Activities for the Treatment Facility and Cyanide Waste Destruction Unit, designating the facility as a generator and treatment, storage, and disposal facility (TSDF). A number of environmental investigations and regulatory compliance investigations have taken place at the facility. The present investigation is an extension of the RFI that was initiated in accordance with an Administrative Order of Consent (AOC) signed between the U.S. EPA and Techalloy on 27 January 1993. The Phase I investigation provided data defining the spatial distributions of constituents at five potential source areas. The Phase II investigation filled the data gaps left following the completion of the Phase I investigation and defined the extent of



SOURCE: U.S.G.S. 7.5 MINUTE TOPOGRAPHIC. MARENGO SOUTH QUADRANGLE.

FIGURE 1-1

WESTON MANAGERS DESIGNERS/CONSULTANTS

Three Hawthorn Parkway
Vernon Hills, Illinois
60061

SITE LOCATION

TECHALLOY COMPANY, INC.
Union, Illinois

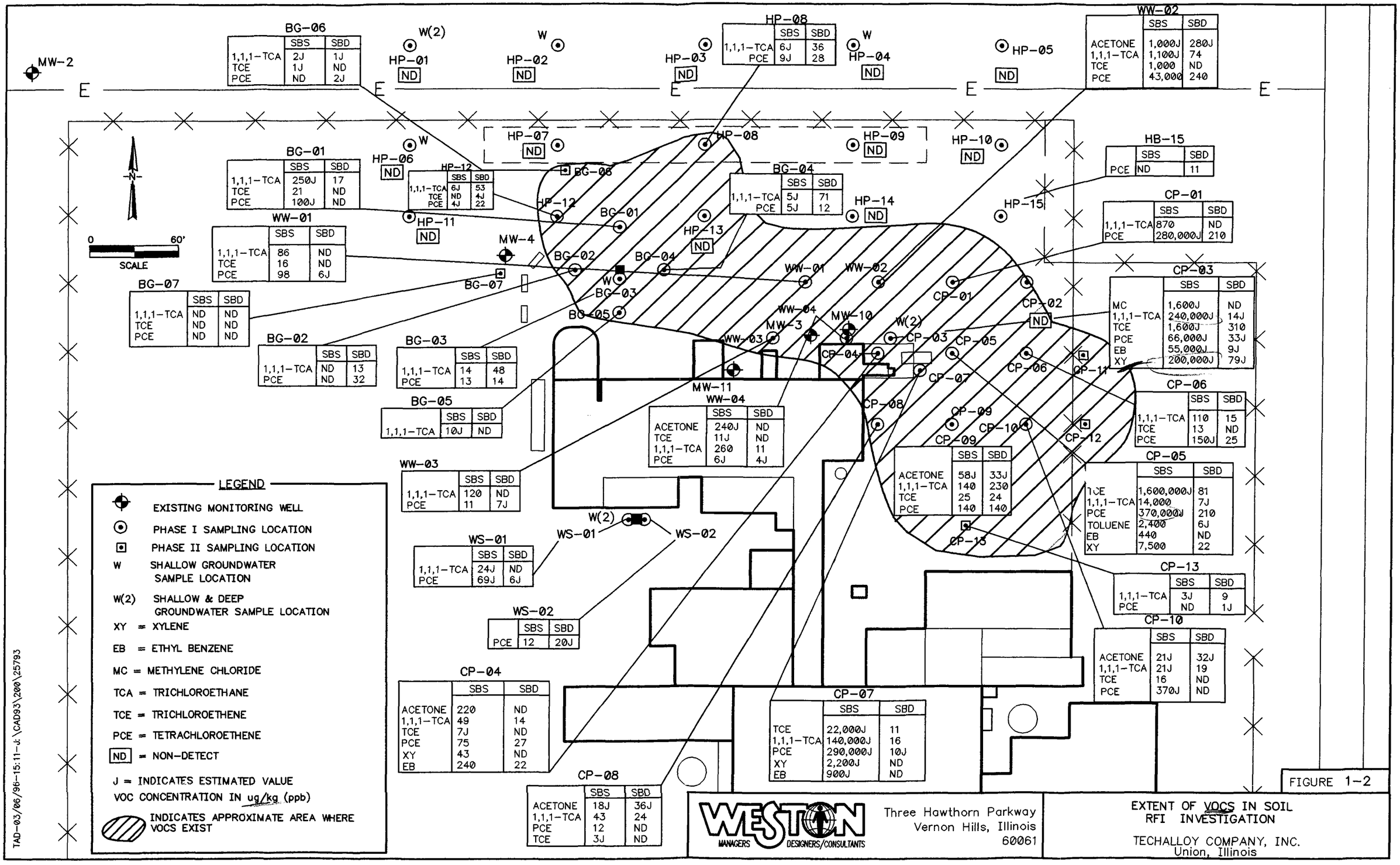
contamination at and around the potential source areas. The potential source areas, designated as RCRA Solid Waste Management Units (SWMUs), are:

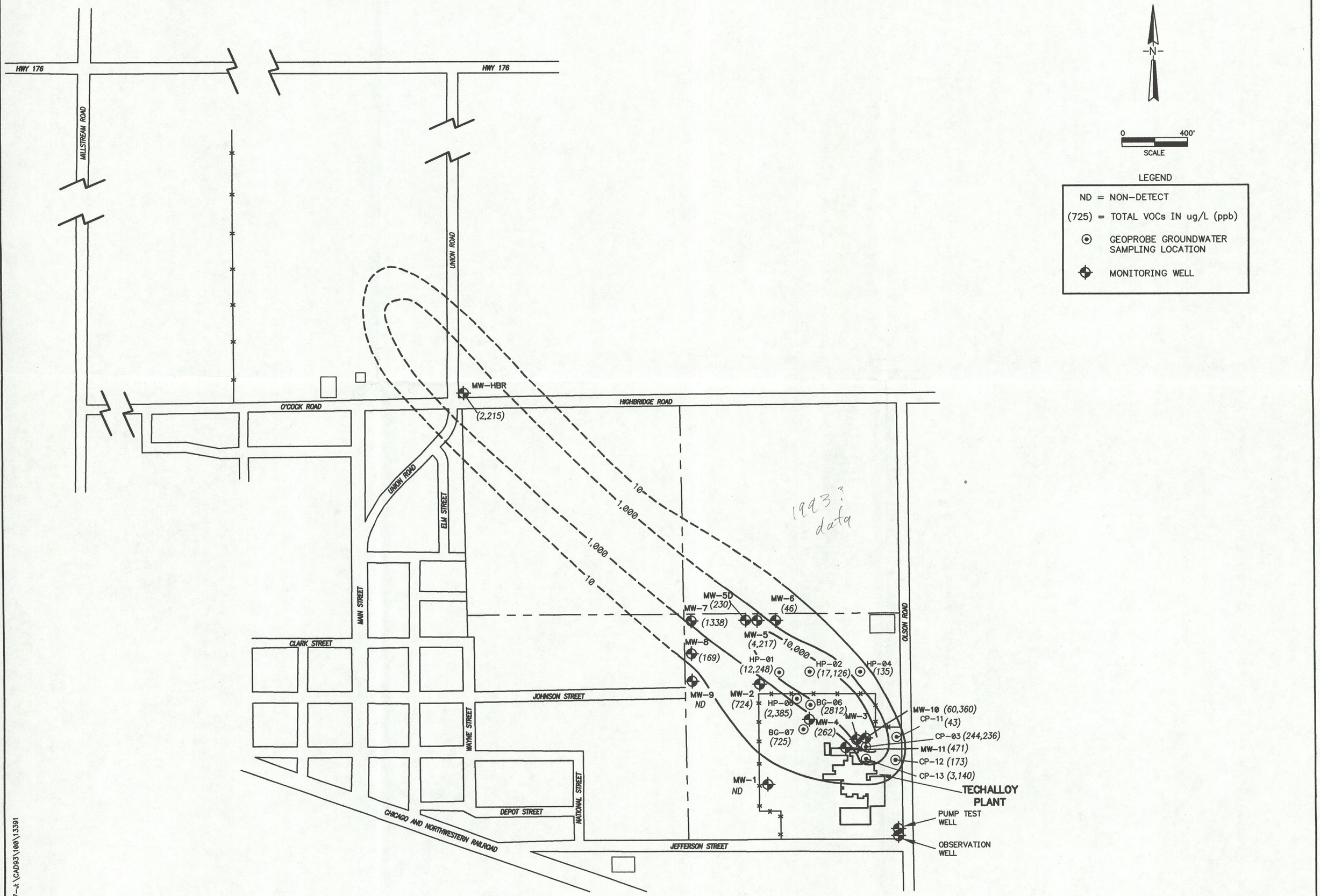
- Wire Slag Disposal (WS) Area.
- BG-5 Oil Drum Storage (BG-5) Area.
- Concrete Evaporation Pad (CP) Area.
- Spent Acid Holding Pond (HP) Area.
- Plating Wastewater Disposal (WW) Area.

During the Phase I and Phase II investigations, 21 Geoprobe groundwater samples and 13 groundwater samples from existing monitoring wells were collected in and around the five SWMUs. These samples were collected to assess potential releases from the above-mentioned SWMUs, to determine the vertical and horizontal extent of the constituents in the source areas, and to determine the migration of constituents in the groundwater.

The lateral extent of the VOCs in subsurface soils from the five SWMUs is presented in Figure 1-2. The following table summarizes the source characterization study and presents the extent of the chemical constituents in the five SWMU areas.

Primary SWMU Area	Soil Borings	Soil Samples	Findings
Wire Slag Disposal	2	4	Low-level chlorinated solvents (1,1,1 TCA and PCE) found. Arsenic, chromium, nickel, vanadium and zinc slightly above background.
BG-5 Oil Drum Storage	7	14	Chlorinated solvents detected (1,1,1 TCA, TCE and PCE). Higher than background levels of nickel, lead and zinc. Also higher levels of barium, chromium, cobalt.
Concrete Evaporation Pad	13	26	Elevated levels of chlorinated solvents. High in copper, lead, nickel, zinc and chromium, mostly in CP-01,CP-03, and CP-05 areas (source areas).
Spent Acid Holding Pond	15	27	PCE (11 ppb) detected in 1 of 15 borings. Elevated levels of nickel, lead, chromium, and zinc in base of holding pond.
Plating Wastewater Disposal	5	10	High chlorinated solvents constituent levels. Believed to be migrating from Concrete pad area. High levels of lead, nickel, chromium and zinc.


MW-2
BG-06
SBS SBD
1,1,1-TCA 2J 1J
TCE 1J ND
PCE ND 2J
W(2)
HP-01
ND
W
HP-02
ND
HP-03
ND
HP-08
SBS SBD
1,1,1-TCA 6J 36
PCE 9J 28
W
HP-04
ND
HP-05
ND
WW-02
SBS SBD
ACETONE 1,000J 280J
1,1,1-TCA 1,100J 74
TCE 1,000 ND
PCE 43,000 240
HP-07
ND
HP-08
HP-09
ND
HP-10
ND
HB-15
SBS SBD
PCE ND 11
W
HP-06
ND
BG-01
SBS SBD
1,1,1-TCA 250J 17
TCE 21 ND
PCE 100J ND
HP-12
SBS SBD
1,1,1-TCA 6J 53
TCE ND 4J
PCE 4J 22
BG-08
BG-04
SBS SBD
1,1,1-TCA 5J 71
PCE 5J 12
HP-14
ND
HP-15
CP-01
SBS SBD
1,1,1-TCA 870
PCE 280,000J 210
HP-11
ND
HP-12
BG-01
HP-13
ND
WW-01
SBS SBD
1,1,1-TCA 86 ND
TCE 16 ND
PCE 98 6J
MW-4
BG-02
BG-04
BG-07
SBS SBD
1,1,1-TCA ND ND
TCE ND ND
PCE ND ND
W
BG-03
BG-05
WW-01
WW-02
CP-01
CP-02
ND
CP-03
SBS SBD
MC 1,600J ND
1,1,1-TCA 240,000J 14J
TCE 1,600J 310
PCE 66,000J 33J
EB 55,000J 9J
XY 200,000J 79J
WW-04
MW-3
MW-10
W(2)
CP-03
CP-05
WW-03
CP-04
CP-06
CP-11
BG-02
SBS SBD
1,1,1-TCA ND 13
PCE ND 32
BG-03
SBS SBD
1,1,1-TCA 14 48
PCE 13 14
MW-11
WW-04
SBS SBD
ACETONE 240J ND
TCE 11J ND
1,1,1-TCA 260 11
PCE 6J 4J
CP-07
CP-08
CP-09
CP-10
CP-12
CP-06
SBS SBD
1,1,1-TCA 110 15
TCE 13 ND
PCE 150J 25
BG-05
SBS SBD
1,1,1-TCA 10J ND
WW-03
SBS SBD
1,1,1-TCA 120 ND
PCE 11 7J
SBS SBD
ACETONE 58J 33J
1,1,1-TCA 140 230
TCE 25 24
PCE 140 140
CP-15
CP-05
SBS SBD
TCE 1,600,000J 81
1,1,1-TCA 14,000 7J
PCE 370,000J 210
TOLUENE 2,400 6J
EB 440 ND
XY 7,500 22
W(2)
WS-01
WS-02
WS-01
SBS SBD
1,1,1-TCA 24J ND
PCE 69J 6J
CP-13
SBS SBD
1,1,1-TCA 3J 9
PCE ND 1J
WS-02
SBS SBD
PCE 12 20J
CP-10
SBS SBD
ACETONE 21J 32J
1,1,1-TCA 21J 19
TCE 16 ND
PCE 370J ND
CP-04
SBS SBD
ACETONE 220 ND
1,1,1-TCA 49 14
TCE 7J ND
PCE 75 27
XY 43 ND
EB 240 22
CP-07
SBS SBD
TCE 22,000J 11
1,1,1-TCA 140,000J 16
PCE 290,000J 10J
XY 2,200J ND
EB 900J ND
CP-08
SBS SBD
ACETONE 18J 36J
1,1,1-TCA 43 24
PCE 12 ND
TCE 3J ND
N
0 60'
SCALE
LEGEND
EXISTING MONITORING WELL
PHASE I SAMPLING LOCATION
PHASE II SAMPLING LOCATION
W SHALLOW GROUNDWATER SAMPLE LOCATION
W(2) SHALLOW & DEEP GROUNDWATER SAMPLE LOCATION
XY = XYLENE
EB = ETHYL BENZENE
MC = METHYLENE CHLORIDE
TCA = TRICHLOROETHANE
TCE = TRICHLOROETHENE
PCE = TETRACHLOROETHENE
ND = NON-DETECT
J = INDICATES ESTIMATED VALUE
VOC CONCENTRATION IN ug/kg (ppb)
INDICATES APPROXIMATE AREA WHERE VOCS EXIST
TAD-03/06/96-15:11-d:\CAD93\200\25793
WESTON MANAGERS DESIGNERS/CONSULTANTS
Three Hawthorn Parkway
Vernon Hills, Illinois
60061
FIGURE 1-2
EXTENT OF VOCS IN SOIL
RFI INVESTIGATION
TECHALLOY COMPANY, INC.
Union, Illinois



TAD-03/22/96-13:37-4:\CAD93\100\13391

FIGURE 1-3

WESTON MANAGERS DESIGNERS/CONSULTANTS

Three Hawthorn Parkway
Vernon Hills, Illinois
60061

TOTAL VOCs IN GROUNDWATER
RFI STUDY 1993?
TECHALLOY COMPANY, INC.
Union, Illinois

pre 1995

3196 Topl RFI

The highest concentrations of VOCs detected in the soil samples were 1,1,1-trichloroethane (1,1,1-TCA), trichloroethene (TCE), and tetrachloroethene (PCE). These VOCs were found at higher concentrations near the Concrete Evaporation Pad Area (determined to be the source) and migrating northwest to within the areas of the Plating Wastewater Disposal Area and the BG-5 Oil Drum Storage Area. The highest concentrations were found in the shallow soil samples collected from the Concrete Evaporation Pad Area at a depth of approximately 2 to 4 feet bgs. The highest concentrations of VOCs detected around a SWMU area were also in the shallow soil samples obtained at depths ranging from 2 to 4 feet bgs. The lateral extent of the VOCs in the soils is limited to an area that is within the fenced limits of the Techalloy facility.

Based on earlier investigations, the groundwater was determined to be the principal pathway of concern at the Techalloy facility. This determination was based on numerous groundwater samples collected during the RFI Study. Characterization of the five SWMUs and resampling of existing wells helped to determine the extent of the constituents. A summary of these findings is presented below:

Primary SWMU Area	Borings	Groundwater Samples	Findings
Wire Slag Disposal	1	1 shallow, 1 deep	TCE and PCE concentrations above MCLs. No VOCs in deep groundwater. One SVOC in shallow and deep groundwater. Total and soluble metals below MCLs.
BG-5 Drum Storage	3	3 shallow, 3 deep	Chlorinated solvents (TCA, TCE and PCE). Nickel at concentrations above MCL.
Concrete Evaporation Pad	4	4 shallow, 4 deep	Determined to be the source area. High in levels of copper, lead, nickel, zinc and chromium. Mostly the western area of employee parking lot.
Spent Acid Holding Pond	5	5 shallow, 5 deep	Chlorinated solvents in the plume area. Nickel concentrations above MCL.
Plating Wastewater Disposal	1	MW-10	High levels of chlorinated solvents. High in lead, nickel and chromium.
Sampling Existing and Monitoring Wells	13	11 shallow, 2 deep	Chlorinated solvents migrating off-site. Total lead the only metal above MCL in off-site well. Total chromium, copper, and zinc levels detected above MCLs on-site.

previous investigations

The VOCs in the groundwater consisted of mostly 1,1,1-TCA, TCE, and PCE. These constituents were found to exceed their respective MCLs in groundwater and were found to have migrated northwest from the Concrete Evaporation Pad Area (source area). The concentration of the VOC plumes, when plotted on a map (as presented in Figure 1-3), indicate that the plume is migrating northwestward with minimal lateral dispersion. The results of the pathway characterization suggested that the site contained VOC constituents. VOCs were delineated in the groundwater plume extending northwestward from the Concrete Evaporation Pad Area and were found to extend off-site approximately 4,000 feet downgradient of the Techalloy facility. The highest concentration of 1,1,1-TCA was detected at the CP-03 location at 200,000 μg/L. TCE was detected at the CP-03 location at a concentration of 12,000 μg/L. PCE was also detected at this location at a concentration of 3,600 μg/L.

Since the above-mentioned investigations indicated that the VOC plume has migrated off-site, the present investigation was undertaken to further define the lateral and vertical extents and the magnitude of the plume. The following sections provide the field investigation procedures, results, and conclusions.

Table 2-1

Summary of Sampling Program
Supplemental RCRA Facility Investigation
Additional Groundwater Sampling
Techalloy Company, Inc.

Location	Depth (feet below ground surface)				
GW-1	13 - 15	28 - 30	45 - 47	60 - 62	75 - 77
GW-2	15 - 20	---	---	---	75 - 80
GW-3	15 - 20	---	---	---	75 - 80
GW-4	15 - 20	---	---	---	75 - 80
GW-5	15 - 20	30 - 35	45 - 50	60 - 65	75 - 80
GW-6	15 - 20	---	---	---	75 - 80
GW-7	15 - 20	30 - 35	45 - 50	60 - 65	75 - 80
GW-8	15 - 20	30 - 35	45 - 50	60 - 65	75 - 80
GW-9	15 - 20	30 - 35	45 - 50	60 - 65	75 - 80

Notes:

1. GW-1 was drilled on 5 December 1995 using 2-foot lead screen augers. All other borings were drilled in January 1996 using 5-foot lead screen augers.

2. GW-2, GW-3, and GW-4 were sampled for shallow (15 to 20 ft.) and deep (75 to 80 ft.) samples only since these boring were assumed to be along the axis of the plume.

was lowered into the HSA. Groundwater was then purged from the HSA column using the Grundfos Pump and a 120V portable generator. Periodic field measurements of pH, specific conductance, and temperature were recorded during the purging operations. A groundwater sample was collected using a disposable bailer when a sufficient volume of water was purged and when the temperature, pH, and specific conductivity were stabilized. Subsequent groundwater samples were collected from each 15-foot depth interval (i.e., 30, 45, 60, and 75 feet bgs) following similar procedures. At borings GW-2, GW-3, GW-4, and GW-6, the groundwater samples were collected from the top (15 feet bgs) and the bottom (75 feet bgs) of the aquifer.

At GW-2, which was the first boring drilled during January 1996 investigation, the shallow and deep groundwater samples were collected using temporary monitoring wells. The temporary monitoring wells (one shallow and one deep) were constructed with a Schedule 40, 2-inch diameter poly-vinyl chloride (PVC) screen and riser. The well screens were 10 feet in length with a 0.010-inch slot size. The depth of the groundwater was measured from ground surface and a minimum of three to five well volumes were purged using a submersible Grundfos Pump. The temperature, pH, and specific conductivity were measured after each well volume was purged.

Following collection of groundwater samples all the boreholes were sealed with a cement/bentonite grout.

2.2 GROUNDWATER SAMPLING

The groundwater samples were collected using a dedicated, disposable, polyethylene bottom weighted bailer. The samples were transferred into three 40-milliliter, laboratory-prepared septum vials. Each vial was overfilled, creating a convex meniscus to eliminate void space in the vial. The Teflon-lined caps were secured on the vials. The vials were inverted, tapped gently, and checked for bubbles. If bubbles were observed, the cap was removed, and the vial was overfilled as described above and then resealed. This step was repeated for each vial until a single-phase sample with no bubbles was obtained. Sample labels were

completed as appropriate to identify the sample's location, date, and time, and the analysis to be performed.

Groundwater samples were placed into a container and preserved by cooling to 4°C. The samples were placed in coolers for transportation to the laboratory and packed so that no movement or breakage of the samples would occur during transportation. Sample containers were placed in plastic zip lock bags, and packaging material was placed around the containers. Ice in double bagged zip lock bags was placed over the samples and the cooler was properly sealed and labelled as per Department of Transportation (DOT) regulations. The samples were delivered to the laboratory on the same or next day for 12-hour turn-around time results.

2.3 ANALYTICAL METHOD

The groundwater samples were analyzed for VOCs using EPA Method 8240 Hazardous Substances List (HSL). Analysis was conducted by WESTON's Environmental Metrics, Inc., (EMI) laboratory in University Park, Illinois. For Quality Assurance/Quality Control (QA/QC) purposes, duplicate samples and trip blanks were also analyzed. The analytical procedures performed were in accordance with the U.S. EPA methods specified in SW-846.

2.4 DECONTAMINATION PROCEDURES

Decontamination procedures were divided between drilling equipment and the groundwater sampling equipment. Drilling equipment included soil boring/drill rig and associated equipment. Sampling equipment included the groundwater purging device (submersible Grundfos pump and hose). Decontamination of bailers was not required since a new disposable bailer was used for each sample collected.

Standard decontamination protocols for drilling equipment and groundwater purging equipment are summarized in Tables 2-2 and 2-3.

Table 2-2

Standard Decontamination Protocol for Drilling Equipment
Supplemental RCRA Facility Investigation
Additional Groundwater Sampling
Techalloy Company, Inc.
Union, Illinois

Step	Task
1	The drill rig and other associated equipment was moved to the designated decontamination area. The location of the decontamination area was selected to avoid the contamination of additional areas of the site.
2	All drilling and drilling-related equipment was supported above the ground and individually steam-cleaned using a pressurized steam/water spray.
3	The control panel and working area of the drill rig was steam cleaned, if it was deemed necessary.
4	If necessary, a non-solvent type cleaning solution such as Alconox detergent was used to spot clean any areas requiring further cleaning. Scrubbing of these areas was followed by steam-cleaning to remove the residual contamination.

Note: All steam-cleaning was performed using pressurized steam on all augers, tools, sampling devices, etc. before each use on a new borehole. Steam-cleaning continued until all visible contamination, oil, grease etc. was removed.

Table 2-3

Standard Decontamination Protocol for Groundwater Purging Equipment
Supplemental RCRA Facility Investigation
Additional Groundwater Sampling
Techalloy Company, Inc.
Union, Illinois

Step	Task
1	Equipment was scrubbed thoroughly with soft-bristle brush and immersed in a tub containing a low-sudsing (Alconox) detergent solution between each sampling depths.
2	The equipment was then immersed in a tub containing tap water. The pump was then allowed to run the alconox solution and then the tap water through its system.
3	Equipment was then allowed to dry or was kept warm. Plastic sheeting was used to cover the equipment when not in use for an extended period of time.

Note: Between each boring, the pump and the hose were also steam cleaned using pressurized steam. This procedure was conducted during the decontamination of the drill rig equipment.

SECTION 3

RESULTS OF THE GROUNDWATER SAMPLING ACTIVITIES

The field investigation included the collection of 33 groundwater samples from nine borings, not including the QA/QC samples. All the groundwater samples were analyzed for VOCs by EPA Method 8240. The results of the groundwater sample analysis are presented in Table 3-1. Chain-of-custody (COC) documentation and copies of the results provided by EMI are provided in Appendix A.

3.1 ANALYTICAL RESULTS

A total of seven VOC compounds were detected in groundwater samples collected during this investigation. These compounds were detected in 20 of the 33 groundwater samples collected. The number of compounds detected in a groundwater sample varied from one to seven. The distribution of the detected VOC compounds is as follows:

- 1,1-Dichloroethene was detected in GW-2(D), GW-3(D), GW-5(30), GW-5(45), GW-5(60), GW-5(75), GW-7(45), GW-7(60), GW-7(75), and GW-9(75) at concentrations ranging from 1J to 180 μg/L.

- 1,1-Dichloroethane was detected in GW-02(D), GW-3(D), GW-4(D), GW-5(30), GW-5(45), GW-5(60), GW-5(75), GW-7(45), GW-7(60) and GW-7(75) at concentrations ranging from 2J to 450 μg/L.

- 1,2-Dichloroethene (total) was detected in GW-2(D),GW-3(D), GW-4(D), GW-5(30), GW-5(60), GW-5(75), GW-7(45), GW-7(60), GW-7(75), GW-9(60), and GW-9(75) at concentrations ranging from 2J to 58 μg/L.

- 1,1,1-Trichloroethane was detected in GW-2(S), GW-2(D), GW-3(S), GW-4(S), GW-4(D), GW-5(15), GW-5(30), GW-5(45), GW-5(60), GW-5(75), GW-7(15), GW-7(30) GW-7(45), GW-7(60), GW-7(75), and GW-8(30) at concentrations ranging from 2J to 1,300 μg/L.

- Trichloroethene was detected in GW-2(D), GW-3(S), GW-3(D) GW-4(S), GW-4(D), GW-5(30), GW-5(45), GW-5(60), GW-5(75), GW-7(15), GW-7(30) GW-7(45), GW-7(60) and GW-7 (75) at concentrations ranging from 1J to 1,100 μg/L.

Table 3-1
Summary of Volatile Organic Compounds
Supplemental RCRA Facility Investigation
Additional Groundwater Sampling (December 1995 / January 1996)
Techalloy Company, Inc.
Union, Illinois

Sample Date	12/05/95	12/05/95	12/05/95	12/05/95	12/05/95	12/05/95	01/22/96	01/24/96	01/23/96	01/24/96
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Location	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site
Sample I.D.	GW-01 (15)	GW-01 (30)	GW-01 (45)	GW-01 (60)	GW-01 (60) DUP	GW-01 (75)	GW-02 (S)	GW-02 (D)	GW-03 (S)	GW-03 (D)
Depth (ft.)	13 - 15	28 - 30	43 - 45	58 - 60	58 - 60	73 - 75	15 - 20	75 - 80	15 - 20	75 - 80
Units	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Disulfide	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	180	5 U	22
1,1-Dichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	450	5 U	58
1,2-Dichloroethene (Total)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	58	5 U	9
Chloroform	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	2 J	130	13	5 U
Carbon Tetrachloride	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Vinyl Acetate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	330	5	8
Dibromochloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 J	5 U	5 U
Benzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table 3-1
Summary of Volatile Organic Compounds
Supplemental RCRA Facility Investigation
Additional Groundwater Sampling (December 1995 / January 1996)
Techalloy Company, Inc.
Union, Illinois
(Continued)

Sample Date	12/05/95	12/05/95	12/05/95	12/05/95	12/05/95	12/05/95	01/22/96	01/24/96	01/23/96	01/24/96
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Location	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site
Sample I.D.	GW-01 (15)	GW-01 (30)	GW-01 (45)	GW-01 (60)	GW-01 (60) DUP	GW-01 (75)	GW-02 (S)	GW-02 (D)	GW-03 (S)	GW-03 (D)
Depth (ft.)	13 - 15	28 - 30	43 - 45	58 - 60	58 - 60	73 - 75	15 - 20	75 - 80	15 - 20	75 - 80
Units	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
trans-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-Pentanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Xylene (Total)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

U = Non-detectable level.
ug/L = Micrograms per liter equivalent to parts per billion.

Table 3-1
Summary of Volatile Organic Compounds
Supplemental RCRA Facility Investigation
Additional Groundwater Sampling (December 1995 / January 1996)
Techalloy Company, Inc.
Union, Illinois
(Continued)

Sample Date	01/25/96	01/25/96	01/26/96	01/30/96	01/30/96	01/30/96	01/30/96	01/26/96	01/26/96	01/24/96
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Location	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site
Sample I.D.	GW-04 (S)	GW-04 (D)	GW-05 (15)	GW-05 (30)	GW-05 (45)	GW-05 (60)	GW-05 (75)	GW-06 (S)	GW-06 (D)	GW-07 (15)
Depth (ft.)	15 - 20	75 - 80	15 - 20	30 - 35	45 - 50	60 - 65	75 - 80	15 - 20	75 - 80	15 - 20
Units	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
trans-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-Pentanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Xylene (Total)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

U = Non-detectable level.
ug/L = Micrograms per liter equivalent to parts per billion.

Table 3-1
Summary of Volatile Organic Compounds
Supplemental RCRA Facility Investigation
Additional Groundwater Sampling (December 1995 / January 1996)
Techalloy Company, Inc.
Union, Illinois
(Continued)

Sample Date	01/24/96	01/24/96	01/25/96	01/26/96	01/25/96	01/31/96	01/31/96	01/31/96	01/31/96
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Location	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site
Sample I.D.	GW-07 (15) DUP	GW-07 (30)	GW-07 (45)	GW-07 (60)	GW-07 (75)	GW-08 (15)	GW-08 (30)	GW-08 (45)	GW-08 (60)
Depth (ft.)	15 - 20	30 - 35	45 - 50	60 - 65	75 - 80	15 - 20	30 - 35	45 - 50	60 - 65
Units	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
trans-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-Pentanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10	21	150	73	5	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Xylene (Total)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

U = Non-detectable level.
ug/L = Micrograms per liter equivalent to parts per billion.

Table 3-1
Summary of Volatile Organic Compounds
Supplemental RCRA Facility Investigation
Additional Groundwater Sampling (December 1995 / January 1996)
Techalloy Company, Inc.
Union, Illinois
(Continued)

Sample Date	01/31/96	01/31/96	01/31/96	01/31/96	01/31/96	01/31/96	01/31/96	01/26/96	01/26/96
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Location	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site
Sample I.D.	GW-08 (75)	GW-09 (15)	GW-09 (30)	GW-09 (30) DUP	GW-09 (45)	GW-09 (60)	GW-09 (75)	FB-01	TB011596
Depth (ft.)	75 - 80	15 - 20	30 - 35	30 - 35	45 - 50	60 - 65	75 - 80		
Units	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
trans-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-Pentanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Xylene (Total)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

U = Non-detectable level.
ug/L = Micrograms per liter equivalent to parts per billion.

in groundwater, will degrade to compounds such as 1,2-DCE, 1,1 DCE, 1,1 PCA, vinylchloride and eventually to ethene and ethane. The three degradation compounds, 1,2,DEC, 1,1 DCE and 1,1-DCA were frequently detected within the groundwater plume.

A comparison between samples collected in 1990 and 1995 was conducted to evaluate the occurrence of cometabolic degradation. An increase in degradation compounds would confirm the occurrence of cometabolic processes. A summary of the results of these sampling events is presented in Table 3-2. Monitoring wells, results from MW-5, MW-7 and MW-HBR were compared since they represent the onset and end portions of the plume. With the exception of product constituents, 1,1,1-TCA, and PCE at MW-5, all other product constituents show a decrease in concentration. The degradation constituents 1,1-DCE and 1,2-DCE (total) all indicate an increase in concentration, attesting to the occurrence of cometabolic degradation. Figures 3-6 and 3-7 a present history of the concentrations from 1990 to 1995.

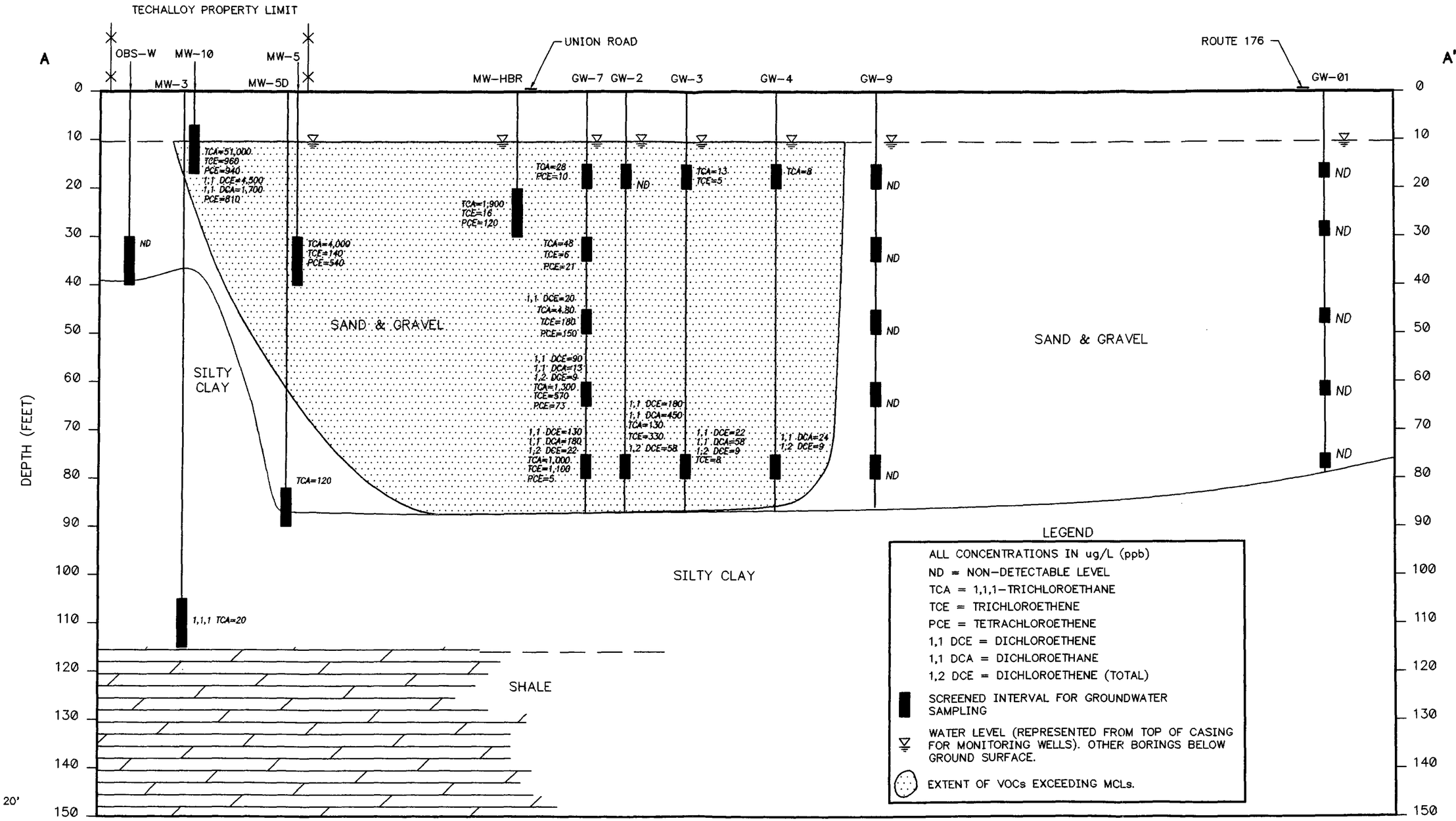


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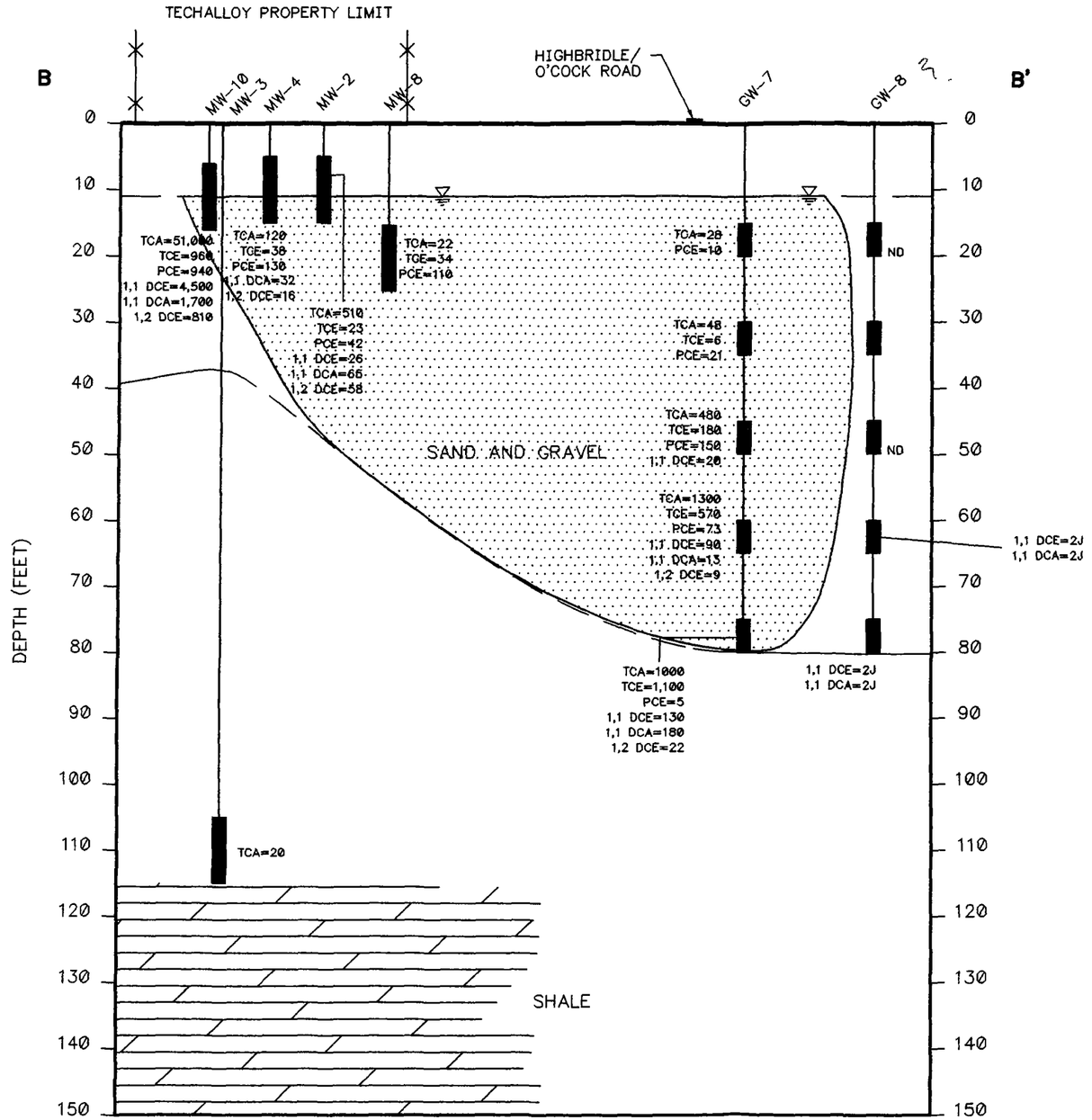
FIGURE 3-4

WESTON MANAGERS DESIGNERS/CONSULTANTS

Three Hawthorn Parkway
Vernon Hills, Illinois
60061

GEOLOGIC CROSS-SECTION A-A'
EXTENT OF VOCs IN GROUNDWATER

TECHALLOY COMPANY, INC.
Union, Illinois



LEGEND

ALL CONCENTRATIONS IN ug/L (ppb)
ND = NON-DETECTABLE LEVEL
TCA = 1,1,1-TRICHLOROETHANE
TCE = TRICHLOROETHENE
PCE = TETRACHLOROETHENE
1,1 DCE = DICHLOROETHENE
1,1 DCA = DICHLOROETHANE
1,2 DCE = DICHLOROETHENE (TOTAL)

SCREENED INTERVAL FOR GROUNDWATER SAMPLING

WATER LEVEL (REPRESENTED FROM TOP OF CASING FOR MONITORING WELLS). OTHER BORINGS BELOW GROUND SURFACE.

EXTENT OF VOCs EXCEEDING MCLs.

VERTICAL 20'
HORIZONTAL 0' 1000'

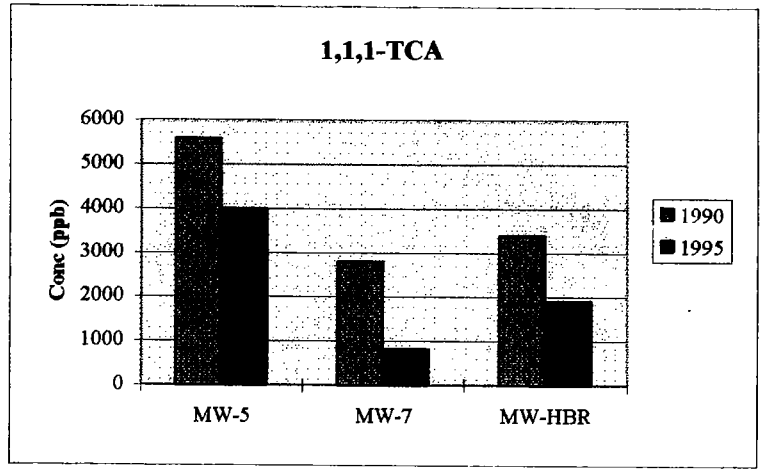
TAD-03/22/96-13:56-J:\CAD93\000\08596

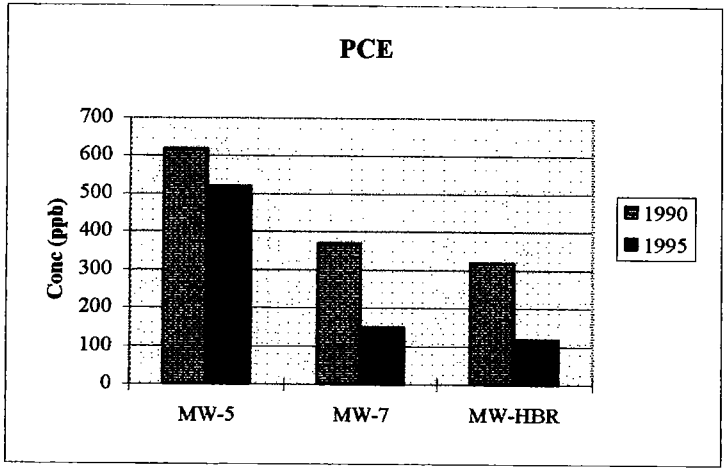
FIGURE 3-5

WESTON MANAGERS DESIGNERS/CONSULTANTS
Three Hawthorn Parkway
Vernon Hills, Illinois
60061

GEOLOGIC CROSS-SECTION B-B'
EXTENT OF VOCs IN GROUNDWATER

TECHALLOY COMPANY, INC.
Union, Illinois





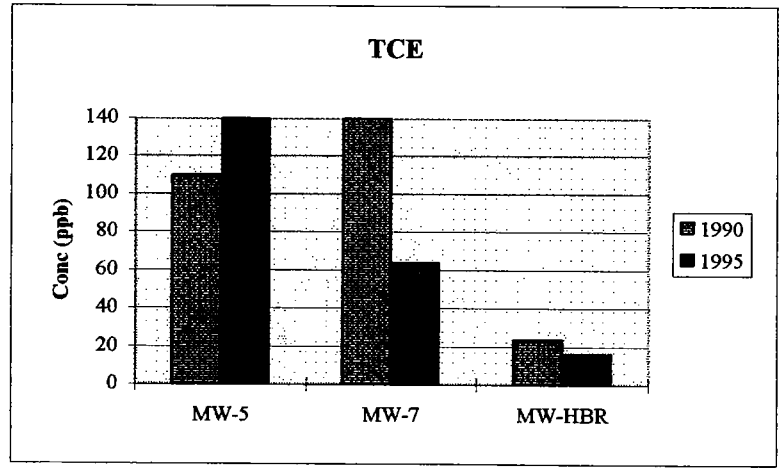
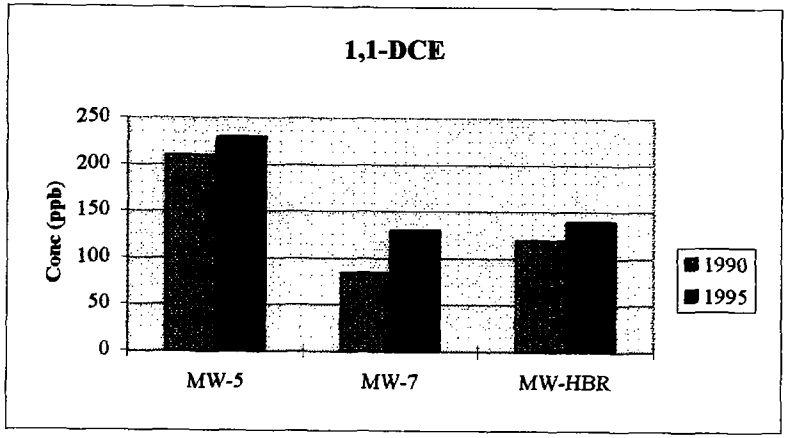


FIGURE 3-6

WESTON MANAGERS DESIGNERS/CONSULTANTS

Three Hawthorn Parkway
Vernon Hills, Illinois
60061

DEGRADATION OF CHLORINATED HYDROCARBONS
RFI STUDY
TECHALLOY COMPANY, INC.
Union, Illinois



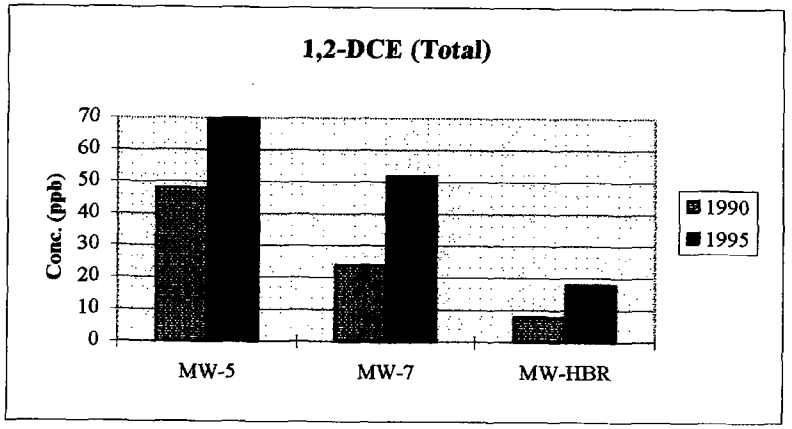


FIGURE 3-7

WESTON MANAGERS DESIGNERS/CONSULTANTS

Three Hawthorn Parkway
Vernon Hills, Illinois
60061

TRANSFORMATION OF CHLORINATED HYDROCARBONS TO DEGRADATION COMPOUNDS
RFI STUDY
TECHALLOY COMPANY, INC.
Union, Illinois

SECTION 4

CONCLUSIONS

Based on the results of this additional groundwater sampling and on the results of the Phase I and Phase II RFI studies, WESTON has formulated the following conclusions:

- The geology of the area consists of sand and gravel outwash deposits. As noted during the earlier investigations, the sand and gravel unit is underlain by silty clay/till unit (Marengo Till).

- The thickness of the sand and gravel unit ranges from 30 to 35 feet within the property limits of the Techalloy facility and to at least 85 feet off-site suggesting the presence of a buried valley.

- The HNu screening of soil samples and screening in the borehole and the breathing zone during the drilling activities did not indicate any readings above the background.

- VOC analysis confirmed the presence of the following VOCs: 1,1,1-TCA, TCE, and PCE and degradation compounds.

- The results of the groundwater samples collected approximately 2 miles downgradient from the Techalloy facility in a rural residential area at the intersection of Route 176 and Millstream Road did not indicate the presence of any VOCs.

- The results of the 28 groundwater samples from the eight additional borings at the northeast and northwest corner of the intersection of the Union Road and O'Cock Road, have defined the lateral and vertical extents of the VOC plume.

- Based on the RFI groundwater results and the additional off-site groundwater sample results, the VOC plume is migrating in the northwest direction originating from the concrete evaporation pad area and extending offsite to the GW-4 boring. This is distance of approximately 5,800 feet from the Techalloy plant.

- The vertical extent of the plume has been delineated by collecting both shallow groundwater samples from the top of the aquifer and deep groundwater samples from the base of the aquifer, slightly above the sand and gravel and the clay/till interface.

- The cross-sectional dimensions of the plume are approximately 400 to 600 feet wide and 35 feet deep within the Techalloy facility and approximately 1,600 feet wide and 80 to 85 feet deep downgradient of the Techalloy facility.

- Comparing concentrations of VOCs (1,1,1-TCA, TCE, PCE, 1,1-DCE, 1,1-DCA, and 1,2-DCE) in the groundwater samples collected in 1990 to 1995, it is evident the dissolved product constituents are decreasing and the degradation products are increasing in concentration, confirming that cometabolic degradation of chlorinated solvent compounds is occurring.

WESTON MANAGERS DESIGNERS/CONSULTANTS

SHEET 1 of 1

CLIENT/SUBJECT Pechalloy W.O. NO. _____

TASK DESCRIPTION Lab Batch # 9601G407 TASK NO. _____

PREPARED BY Linda Dobbs DEPT _____ DATE 2/6/96

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY _____

DEPT _____ DATE _____

Volatiles by GC/MS, HSL List

1. Sample	Lab ID	Matrix	Date Collected	Date Analyzed
GW-2(S)	001	water	1/22/96	1/23/96
GW-3(S)	002	water	1/23/96	1/23/96

2. Holding Time

All samples were analyzed within the required holding time.

3. Blanks

The method blank contained methylene chloride at 1 ug/L. However, this had no affect on the investigative samples.

4. Surrogates

All surrogate spike recoveries were acceptable.

5. Matrix Spike/ Matrix Spike Duplicate

A matrix spike/ matrix spike duplicate audit was not performed on these samples. However, the blank spike results were acceptable.

WESTON MANAGERS DESIGNERS/CONSULTANTS

SHEET 1 of 1

CLIENT/SUBJECT Techalloy W.O. NO. _____

TASK DESCRIPTION Lab Batch # 9601G428 TASK NO. _____

PREPARED BY Linda Kobbka DEPT _____ DATE 2/5/96

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY _____

DEPT _____ DATE _____

Volatiles by GC/MS, NSL List

1. Samples	Lab ID	Matrix	Date Collected	Date Analyzed
GW-2(D)	001	water	1/24/96	1/24/96
GW-2(D)	001 D1	water	1/24/96	1/25/96
GW-3(D)	002	water	1/24/96	1/24/96
GW-7(15)	003	water	1/24/96	1/24/96
GW-7(15) DUP	004	water	1/24/96	1/24/96
GW-7(30)	005	water	1/24/96	1/25/96

2. Holding Times

All samples were analyzed within the required holding time.

3. Blanks

The method blank associated with these samples was free of contamination.

4. Surrogates

All surrogate spike recoveries were acceptable.

5. Matrix Spike / Matrix Spike Duplicate

A matrix spike/ matrix spike duplicate audit was not performed with these samples. However, the blank spike results were acceptable.

WESTON MANAGERS DESIGNERS/CONSULTANTS

SHEET 1 of 1

CLIENT/SUBJECT Pechalloy W.O. NO.

TASK DESCRIPTION Lab Batches #960164752 TASK NO.

PREPARED BY Linda Kolbik DEPT DATE 2/5/96

MATH CHECK BY DEPT DATE

METHOD REV. BY DEPT DATE

APPROVED BY

DEPT DATE

Volatiles by GC/MS, HSL List

1. Samples	Lab ID	Matrix	Date Collected	Date Analyzed
GW-6 (S)	001	water	1/26/96	1/27/96
GW-6 (D)	002	water	1/26/96	1/27/96
FB-01	003	water	1/26/96	1/27/96
GW-5 (15)	004	water	1/26/96	1/27/96
TB011596	005	water	1/26/96	1/27/96

2. Holding Times

All samples were analyzed within the required holding time.

3. Blanks

Methylene chloride was detected in the method blank at 2 µg/L. However, methylene chloride was not detected in the investigative samples.

Acetone was detected in the trip blank at 11 µg/L. As a result, the acetone results in samples FB-01 and GW-5 (15) were qualified non detect (U).

4. Surrogates

All surrogate spike recoveries were acceptable.

5. Matrix Spike/ Matrix Spike Duplicate

A matrix spike/ matrix spike duplicate audit was not performed on these samples. However, all blank spike results were acceptable.

WESTON MANAGERS DESIGNERS/CONSULTANTS

SHEET 1 of 1

CLIENT/SUBJECT Pechaloy W.O. NO.

TASK DESCRIPTION Lab Batch # 9601G452 TASK NO.

PREPARED BY Linda Kolobka DEPT DATE 2/5/96

MATH CHECK BY DEPT DATE

METHOD REV. BY DEPT DATE

APPROVED BY

DEPT DATE

Volatiles by GC/MS, HSL List

1. Samples	Lab ID	Matrix	Date Collected	Date Analyzed
GW-4(S)	001	water	1/25/96	1/25/96
GW-4(D)	002	water	1/25/96	1/25/96
GW-7(45)	003	water	1/25/96	1/25/96
GW-7(45)	003 D1	water	1/25/96	1/26/96
GW-7(60)	004	water	1/25/96	1/25/96
GW-7(60)	004 D1	water	1/25/96	1/26/96
GW-7(75)	005	water	1/25/96	1/26/96
GW-7(75)	005 D1	water	1/25/96	1/26/96

2. Holding Times

All samples were analyzed within the required holding time.

3. Blanks

Two method blanks were associated with these samples. Acetone at 11 ug/L was detected in method blank 96GVF029-MB1. As a result, the acetone result in sample GW-7(25) was qualified as non-detect (U).

4. Surrogates

All surrogate spike recoveries were acceptable.

5. Matrix Spike/Matrix Spike Duplicate

A matrix spike/matrix spike duplicate audit was not performed on these samples. However, all blank spike results were acceptable.

WESTON MANAGERS DESIGNERS/CONSULTANTS

SHEET 1 of 1

CLIENT/SUBJECT Pechaloy W.O. NO. _____

TASK DESCRIPTION Lab Batch # 9601G527 TASK NO. _____

PREPARED BY Linda Krobke DEPT _____ DATE 2/6/96 | APPROVED BY

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____ | DEPT _____ DATE _____

Volatiles by GC/MS, HSL list

1. Sample	Lab ID	Matrix	Date Collected	Date Analyzed
GW-8 (15)	001	water	1/31/96	1/31/96
GW-8 (30)	002			
GW-8 (45)	003			
GW-8 (60)	004			
GW-8 (75)	005			
GW-9 (15)	006			2/1/96
GW-9 (30)	007			
GW-9 (30) DUP	008			
GW-9 (45)	009			
GW-9 (60)	010			
GW-9 (75)	011			

2. Holding Times

All samples were analyzed within the required holding time.

3. Blanks

The method blank associated with these samples was free of contamination.

4. Surrogates

All surrogate spike recoveries were acceptable.

5. Matrix Spike/ Matrix Spike Duplicate

A matrix spike/ matrix spike duplicate audit was not performed on these samples.

GLOSSARY OF DATA QUALIFIERS AND ABBREVIATIONS

Data Qualifiers

B	Compound was found in the blank and the sample
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis
E	Concentration exceeds the instrument calibration range and was subsequently diluted
I	Appears on the "results spreadsheet" to indicate an interference
J	Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)
T	Compound was found in the TCLP extraction blank and the sample
U	Analyte was not detected at or above the reporting limit
X	Result obtained indirectly through calculation based on results from other analyses

Abbreviations

Batch	Designation given to identify a specific extraction, digestion or preparation set (equivalent to prep batch)
BS	Blank spike analysis was conducted on reagent grade water or a matrix free from the analyte of interest
BSD	Blank spike duplicate
BRL	Below reporting limit
CD	Calculation factor used by the Laboratory's Information Management System (LIMS)
Contract	Contract laboratory identification code
DF	Dilution factor
DL	Appears in the sample ID to indicate a secondary dilution was performed
LCS/LC	Denotes laboratory control standard
LAB ID	The full 12 character Weston laboratory identification number (equivalent to RFW#)
MB	Method blank or (PB) preparation blank
MS	Matrix spike
MSD	Matrix spike duplicate
NA	Not applicable
NC	Non-calculable precision due to insufficient concentration of analyte present in the sample
NR	Not required
NS	Not spiked
RE	Appears in the sample ID to indicate a re-analysis
REP	Replicate analysis
Reprep	Sample was reprepared and then reanalyzed
RFW#	The full 12 character WESTON laboratory identification number (equivalent to LAB ID)
RFW Lot	The first 8 characters of the RFW#
RPD	Relative percent difference of duplicate analyses
RRF	Relative response factor
RT	Retention time
RTW	Retention time widow
SP	Blank spike, blank spike duplicate, matrix spike or matrix spike duplicate
WO#	Work order no. WESTON code used to define a specific client, job, phase and task

NOTES:

- One or a combination of these data qualifiers and abbreviations may appear in the analytical report.
- Soil, sediment and sludge results are reported on a dry weight basis except when analyzed for landfill disposal or incineration parameters. All other results on a solid matrix are reported on an "as received" basis unless noted differently.
- Reporting limits are adjusted for preparation sample size, sample dilutions and sample moisture content if analyzed on a dry weight basis.

Revised 12/09/94

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2417 Bond Street
University Park, Illinois 60466-3182
Phones: (708) 534-5200 (219) 885-7077 (815) 723-7533
Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Wednesday January 24th, 1996

RE: GW-2(S)
Project # 01989-022-001-9999
Lab ID: 9601G407-001
Sample Date: 01/22/96
Date Received: 01/23/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	2	5	J
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L. Kroeker 2/5/96

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Wednesday January 24th, 1996

RE: GW-2(S)
Project # 01989-022-001-9999
Lab ID: 9601G407-001
Sample Date: 01/22/96
Date Received: 01/23/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	BRL	5	U
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Kordecka 2/5/96

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Wednesday January 24th, 1996

RE: GW-2(S)
Project # 01989-022-001-9999
Lab ID: 9601G407-001
Sample Date: 01/22/96
Date Received: 01/23/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday January 25th, 1996

RE: GW-2(D)
Project # 01989-006-004-0000
Lab ID: 9601G428-001
Sample Date: 01/24/96
Date Received: 01/24/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	180	5	
1,1-Dichloroethane	E	5	
1,2-Dichloroethene (total)	58	5	
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	130	5	
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L. Krabbe
2/5/96

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Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday January 25th, 1996

RE: GW-2(D)
Project # 01989-006-004-0000
Lab ID: 9601G428-001
Sample Date: 01/24/96
Date Received: 01/24/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	E	5	
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	2	5	J
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Kovalka 2/5/96

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday January 25th, 1996

RE: GW-2(D)
Project # 01989-006-004-0000
Lab ID: 9601G428-001
Sample Date: 01/24/96
Date Received: 01/24/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

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Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday January 25th, 1996

RE: GW-2(D)
Project # 01989-006-004-0000
Lab ID: 9601G428-001 DL
Sample Date: 01/24/96
Date Received: 01/24/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,1-Dichloroethane	450	50	
Trichloroethene	330	50	

L. [illegible] 2/5/96

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Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Wednesday January 24th, 1996

RE: GW-3(S)
Project # 01989-022-001-9999
Lab ID: 9601G407-002
Sample Date: 01/23/96
Date Received: 01/23/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	13	5	
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L. Kroeke 2/5/96

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Wednesday January 24th, 1996

RE: GW-3(S)
Project # 01989-022-001-9999
Lab ID: 9601G407-002
Sample Date: 01/23/96
Date Received: 01/23/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	5	5	
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Kolodka 2/5/96

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Wednesday January 24th, 1996

RE: GW-3(S)
Project # 01989-022-001-9999
Lab ID: 9601G407-002
Sample Date: 01/23/96
Date Received: 01/23/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

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Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday January 25th, 1996

RE: GW-3(D)
Project # 01989-006-004-0000
Lab ID: 9601G428-002
Sample Date: 01/24/96
Date Received: 01/24/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	22	5	
1,1-Dichloroethane	58	5	
1,2-Dichloroethene (total)	9	5	
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L Kowalska 2/5/96

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Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday January 25th, 1996

RE: GW-3(D)
Project # 01989-006-004-0000
Lab ID: 9601G428-002
Sample Date: 01/24/96
Date Received: 01/24/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	8	5	
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L Knobler 2/5/96

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday January 25th, 1996

RE: GW-3(D)
Project # 01989-006-004-0000
Lab ID: 9601G428-002
Sample Date: 01/24/96
Date Received: 01/24/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

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Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-4(S)
Project # 01989-022-001-9999
Lab ID: 9601G452-001
Sample Date: 01/25/96
Date Received: 01/25/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	8	5	
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L Korobka 2/5/96

Weston Environmental Metrics, Inc.
2417 Bond Street
University Park, Illinois 60466-3182
Phones: (708) 534-5200 (219) 885-7077 (815) 723-7533
Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-4(S)
Project # 01989-022-001-9999
Lab ID: 9601G452-001
Sample Date: 01/25/96
Date Received: 01/25/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	1	5	J
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Kroboth 2/5/96

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RE: GW-4(S)
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Lab ID: 9601G452-001
Sample Date: 01/25/96
Date Received: 01/25/96
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Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-4(D)
Project # 01989-022-001-9999
Lab ID: 9601G452-002
Sample Date: 01/25/96
Date Received: 01/25/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	1	5	J
1,1-Dichloroethane	24	5	
1,2-Dichloroethene (total)	9	5	
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	2	5	J
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

2/5/96

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Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-4(D)
Project # 01989-022-001-9999
Lab ID: 9601G452-002
Sample Date: 01/25/96
Date Received: 01/25/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	2	5	J
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Kolakowski 2/5/96

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Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-4(D)
Project # 01989-022-001-9999
Lab ID: 9601G452-002
Sample Date: 01/25/96
Date Received: 01/25/96
Units: ug/L

Tentatively Identified Compounds

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Weston Environmental Metrics, Inc. (Gulf Coast)
VOLATILES BY GC/MS, HSL LIST

RFW Batch Number: 9601G407 Client: Techalloy Work Order: 01989-022-001-9 Report Date: 01/24/96 10:06 Page: 1a

	Cust ID:	GW-2(S)		GW-3(S)		VBLK		VBLK BS	
Sample Information	RFW#:	001		002		96GVF025-MB1		96GVF025-MB1	
	Matrix:	WATER		WATER		WATER		WATER	
	D.F.:	1		1		1		1	
	Units:	ug/L		ug/L		ug/L		ug/L	
Surrogate Recovery	Toluene-d8	101	%	99	%	92	%	100	%
	4-Bromofluorobenzene	94	%	91	%	91	%	94	%
	1,2-Dichloroethane-d4	106	%	106	%	99	%	102	%
Chloromethane		10	U	10	U	10	U	68	%
Bromomethane		10	U	10	U	10	U	83	%
Vinyl chloride		2	U	2	U	2	U	82	%
Chloroethane		10	U	10	U	10	U	88	%
Methylene Chloride		5	U	5	U	1	J	93	%
Acetone		10	U	10	U	10	U	97	%
Carbon Disulfide		5	U	5	U	5	U	120	%
1,1-Dichloroethene		5	U	5	U	5	U	117	%
1,1-Dichloroethane		5	U	5	U	5	U	113	%
1,2-Dichloroethene (total)		5	U	5	U	5	U	98	%
Chloroform		5	U	5	U	5	U	109	%
1,2-Dichloroethane		5	U	5	U	5	U	112	%
2-Butanone		10	U	10	U	10	U	109	%
1,1,1-Trichloroethane		2	J	13		5	U	98	%
Carbon Tetrachloride		5	U	5	U	5	U	104	%
Vinyl acetate		10	U	10	U	10	U	114	%
Bromodichloromethane		5	U	5	U	5	U	90	%
1,2-Dichloropropane		5	U	5	U	5	U	100	%
cis-1,3-Dichloropropene		5	U	5	U	5	U	112	%
Trichloroethene		5	U	5		5	U	97	%
Dibromochloromethane		5	U	5	U	5	U	87	%
1,1,2-Trichloroethane		5	U	5	U	5	U	94	%
Benzene		5	U	5	U	5	U	102	%
trans-1,3-Dichloropropene		5	U	5	U	5	U	113	%
Bromoform		5	U	5	U	5	U	94	%
4-Methyl-2-pentanone		10	U	10	U	10	U	102	%
2-Hexanone		10	U	10	U	10	U	101	%
Tetrachloroethene		5	U	5	U	5	U	87	%
1,1,2,2-Tetrachloroethane		5	U	5	U	5	U	94	%

*= Outside of EPA CLP QC limits.

L. Kovalka 2/5/96

RFW Batch Number: 9601G407 Client: Techalloy Work Order: 01989-022-001-9 Page: 1b

Cust ID:	GW-2(S)	GW-3(S)	VBLK	VBLK BS
RFW#:	001	002	96GVF025-MB1	96GVF025-MB1
Toluene	5 U	5 U	5 U	101 %
Chlorobenzene	5 U	5 U	5 U	100 %
Ethylbenzene	5 U	5 U	5 U	103 %
Styrene	5 U	5 U	5 U	98 %
Xylene (total)	5 U	5 U	5 U	95 %

*= Outside of EPA CLP QC limits.

L. Krabbe 2/5/96

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Environmental Metrics, Inc. Method Reference

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

GC/MS METHODS

Volatiles	X	**SW-846 8240A**
	____	**SW-846 8240B**
	____	**SW-846 8260**
	____	**SW-846 8260A**
	____	**EPA 524.2**
	____	**40 CFR Part 136, Method 624**
	____	**CLP 2/88**
	____	**CLP OLM01.8**
Semi-Volatiles	____	**SW-846 8270A**
	____	**SW-846 8270B**
	____	**40 CFR Part 136, Method 625**
	____	**CLP 2/88**
	____	**CLP OLM01.8**

GLOSSARY OF DATA QUALIFIERS AND ABBREVIATIONS

Data Qualifiers

B	Compound was found in the blank and the sample
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis
E	Concentration exceeds the instrument calibration range and was subsequently diluted
I	Appears on the "results spreadsheet" to indicate an interference
J	Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)
T	Compound was found in the TCLP extraction blank and the sample
U	Analyte was not detected at or above the reporting limit
X	Result obtained indirectly through calculation based on results from other analyses

Abbreviations

Batch	Designation given to identify a specific extraction, digestion or preparation set (equivalent to prep batch)
BS	Blank spike analysis was conducted on reagent grade water or a matrix free from the analyte of interest
BSD	Blank spike duplicate
BRL	Below reporting limit
CD	Calculation factor used by the Laboratory's Information Management System (LIMS)
Contract	Contract laboratory identification code
DF	Dilution factor
DL	Appears in the sample ID to indicate a secondary dilution was performed
LCS/LC	Denotes laboratory control standard
LAB ID	The full 12 character Weston laboratory identification number (equivalent to RFW#)
MB	Method blank or (PB) preparation blank
MS	Matrix spike
MSD	Matrix spike duplicate
NA	Not applicable
NC	Non-calculable precision due to insufficient concentration of analyte present in the sample
NR	Not required
NS	Not spiked
RE	Appears in the sample ID to indicate a re-analysis
REP	Replicate analysis
Reprep	Sample was reprepared and then reanalyzed
RFW#	The full 12 character WESTON laboratory identification number (equivalent to LAB ID)
RFW Lot	The first 8 characters of the RFW#
RPD	Relative percent difference of duplicate analyses
RRF	Relative response factor
RT	Retention time
RTW	Retention time widow
SP	Blank spike, blank spike duplicate, matrix spike or matrix spike duplicate
WO#	Work order no. WESTON code used to define a specific client, job, phase and task

NOTES:

- One or a combination of these data qualifiers and abbreviations may appear in the analytical report.
- Soil, sediment and sludge results are reported on a dry weight basis except when analyzed for landfill disposal or incineration parameters. All other results on a solid matrix are reported on an "as received" basis unless noted differently.
- Reporting limits are adjusted for preparation sample size, sample dilutions and sample moisture content if analyzed on a dry weight basis.

Revised 12/09/94

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Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-5(15)
Project # 01989-022-001-0010
Lab ID: 9601G472-004
Sample Date: 01/26/96
Date Received: 01/27/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	11	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	2	5	J
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	38	5	
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L. Kraeber 2/5/96

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Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	BRL	5	U
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

2/5/96

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Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Wednesday January 31st, 1996

RE: GW-5(30)
Project # 01989-006-004-0000
Lab ID: 9601G512-001
Sample Date: 01/30/96
Date Received: 01/30/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	18	5	
1,1-Dichloroethane	23	5	
1,2-Dichloroethene (total)	4	5	J
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	38	5	
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L. Korolka 2/5/96

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Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Wednesday January 31st, 1996

RE: GW-5(30)
Project # 01989-006-004-0000
Lab ID: 9601G512-001
Sample Date: 01/30/96
Date Received: 01/30/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	24	5	
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L Krobka 2/5/96

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Attn: Mr. Carlos Serna

Date: Wednesday January 31st, 1996

RE: GW-5(45)
Project # 01989-006-004-0000
Lab ID: 9601G512-002
Sample Date: 01/30/96
Date Received: 01/30/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	10	5	
1,1-Dichloroethane	9	5	
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	68	5	
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L Korabka 2/5/96

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Attn: Mr. Carlos Serna

Date: Wednesday January 31st, 1996

RE: **GW-5(45)**
Project # 01989-006-004-0000
Lab ID: **9601G512-002**
Sample Date: 01/30/96
Date Received: 01/30/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	9	5	
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

2/5/96

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2417 Bond Street
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Phones: (708) 534-5200 (219) 885-7077 (815) 723-7533
Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Wednesday January 31st, 1996

RE: GW-5(60)
Project # 01989-006-004-0000
Lab ID: 9601G512-003
Sample Date: 01/30/96
Date Received: 01/30/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	21	5	
1,1-Dichloroethane	28	5	
1,2-Dichloroethene (total)	5	5	J
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	37	5	
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

Y. Kolodka 2/5/96

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Attn: Mr. Carlos Serna

Date: Wednesday January 31st, 1996

RE: GW-5(60)
Project # 01989-006-004-0000
Lab ID: 9601G512-003
Sample Date: 01/30/96
Date Received: 01/30/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	20	5	
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L Kloske 2/5/96

Weston Environmental Metrics. Inc.
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Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Wednesday January 31st, 1996

RE: GW-5(60)
Project # 01989-006-004-0000
Lab ID: 9601G512-003
Sample Date: 01/30/96
Date Received: 01/30/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Wednesday January 31st, 1996

RE: GW-5(75)
Project # 01989-006-004-0000
Lab ID: 9601G512-004
Sample Date: 01/30/96
Date Received: 01/30/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	21	5	
1,1-Dichloroethane	31	5	
1,2-Dichloroethene (total)	5	5	
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	30	5	
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

Y. Kovalcha 2/5/96

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Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Wednesday January 31st, 1996

RE: GW-5(75)
Project # 01989-006-004-0000
Lab ID: 9601G512-004
Sample Date: 01/30/96
Date Received: 01/30/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	23	5	
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

J. Kobbe 2/5/96

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Wednesday January 31st, 1996

RE: GW-5(75)
Project # 01989-006-004-0000
Lab ID: 9601G512-004
Sample Date: 01/30/96
Date Received: 01/30/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Weston Environmental Metrics, Inc. (Gulf Coast)
VOLATILES BY GC/MS, HSL LIST
Report Date: 01/31/96 10:06

RFW Batch Number: 9601G512 Client: Techalloy Work Order: 01989-006-004-0 Page: 1a

	Cust ID:	GW-5(30)	GW-5(45)	GW-5(60)	GW-5(75)	VBLK	VBLK BS
Sample Information	RFW#:	001	002	003	004	96GVT028-MB1	96GVT028-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1	1	1	1	1	1
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Surrogate Recovery	Toluene-d8	97 %	96 %	95 %	94 %	97 %	95 %
	4-Bromofluorobenzene	96 %	94 %	93 %	94 %	97 %	101 %
	1,2-Dichloroethane-d4	91 %	91 %	89 %	91 %	98 %	99 %
Chloromethane		10 U	10 U	10 U	10 U	10 U	44 %
Bromomethane		10 U	10 U	10 U	10 U	10 U	68 %
Vinyl chloride		2 U	2 U	2 U	2 U	2 U	59 %
Chloroethane		10 U	10 U	10 U	10 U	10 U	73 %
Methylene Chloride		5 U	5 U	5 U	5 U	5 U	84 %
Acetone		10 U	10 U	10 U	10 U	10 U	87 %
Carbon Disulfide		5 U	5 U	5 U	5 U	5 U	83 %
1,1-Dichloroethene		18 *	10 *	21 *	21 *	5 U	99 %
1,1-Dichloroethane		23 *	9 *	28 *	31 *	5 U	93 %
1,2-Dichloroethene (total)		4 J*	5 U	5 J *	5	5 U	86 %
Chloroform		5 U	5 U	5 U	5 U	5 U	97 %
1,2-Dichloroethane		5 U	5 U	5 U	5 U	5 U	97 %
2-Butanone		10 U	10 U	10 U	10 U	10 U	98 %
1,1,1-Trichloroethane		38 *	68 *	37 *	30 *	5 U	99 %
Carbon Tetrachloride		5 U	5 U	5 U	5 U	5 U	106 %
Vinyl acetate		10 U	10 U	10 U	10 U	10 U	88 %
Bromodichloromethane		5 U	5 U	5 U	5 U	5 U	92 %
1,2-Dichloropropane		5 U	5 U	5 U	5 U	5 U	95 %
cis-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U	116 %
Trichloroethene		24 *	9 *	20 *	23 *	5 U	93 %
Dibromochloromethane		5 U	5 U	5 U	5 U	5 U	92 %
1,1,2-Trichloroethane		5 U	5 U	5 U	5 U	5 U	100 %
Benzene		5 U	5 U	5 U	5 U	5 U	100 %
trans-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U	109 %
Bromoform		5 U	5 U	5 U	5 U	5 U	104 %
4-Methyl-2-pentanone		10 U	10 U	10 U	10 U	10 U	99 %
2-Hexanone		10 U	10 U	10 U	10 U	10 U	106 %
Tetrachloroethene		5 U	5 U	5 U	5 U	5 U	86 %
1,1,2,2-Tetrachloroethane		5 U	5 U	5 U	5 U	5 U	96 %

*= Outside of EPA CLP QC limits.

L Kowalska 2/5/96

17

RFW Batch Number: 9601G512 Client: Techalloy Work Order: 01989-006-004-0 Page: 1b

Cust ID:	GW-5(30)	GW-5(45)	GW-5(60)	GW-5(75)	VBLK	VBLK BS	
RFW#:	001	002	003	004	96GVT028-MB1	96GVT028-MB1	
Toluene	5 U	5 U	5 U	5 U	5 U	93	%
Chlorobenzene	5 U	5 U	5 U	5 U	5 U	96	%
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	98	%
Styrene	5 U	5 U	5 U	5 U	5 U	98	%
Xylene (total)	5 U	5 U	5 U	5 U	5 U	98	%

*= Outside of EPA CLP QC limits.

L. Krobka
2/5/96

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Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-6(S)
Project # 01989-022-001-0010
Lab ID: 9601G472-001
Sample Date: 01/26/96
Date Received: 01/27/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L. Koolke 2/5/96

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Project # 01989-022-001-0010
Lab ID: 9601G472-001
Sample Date: 01/26/96
Date Received: 01/27/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	BRL	5	U
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

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RE: GW-6(S)
Project # 01989-022-001-0010
Lab ID: 9601G472-001
Sample Date: 01/26/96
Date Received: 01/27/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

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Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-6(D)
Project # 01989-022-001-0010
Lab ID: 9601G472-002
Sample Date: 01/26/96
Date Received: 01/27/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

Y. Kralke 2/5/96

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Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-6(D)
Project # 01989-022-001-0010
Lab ID: 9601G472-002
Sample Date: 01/26/96
Date Received: 01/27/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	BRL	5	U
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Koeble 2/5/96

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Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-6(D)
Project # 01989-022-001-0010
Lab ID: 9601G472-002
Sample Date: 01/26/96
Date Received: 01/27/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday January 25th, 1996

RE: GW-7(15)
Project # 01989-006-004-0000
Lab ID: 9601G428-003
Sample Date: 01/24/96
Date Received: 01/24/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	2	5	J
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	28	5	
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L. Korabka 2/5/96

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday January 25th, 1996

RE: GW-7(15)
Project # 01989-006-004-0000
Lab ID: 9601G428-003
Sample Date: 01/24/96
Date Received: 01/24/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	2	5	J
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	10	5	
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Kreider 2/5/96

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday January 25th, 1996

RE: GW-7(15)
Project # 01989-006-004-0000
Lab ID: 9601G428-003
Sample Date: 01/24/96
Date Received: 01/24/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday January 25th, 1996

RE: GW-7(15)DUP
Project # 01989-006-004-0000
Lab ID: 9601G428-004
Sample Date: 01/24/96
Date Received: 01/24/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	2	5	J
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	28	5	
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L. Kosolka 2/5/96

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MANAGERS DESIGNERS/CONSULTANTS

Weston Environmental Metrics, Inc.
2417 Bond Street
University Park, Illinois 60466-3182
Phones: (708) 534-5200 (219) 885-7077 (815) 723-7533
Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday January 25th, 1996

RE: GW-7(15)DUP
Project # 01989-006-004-0000
Lab ID: 9601G428-004
Sample Date: 01/24/96
Date Received: 01/24/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	3	5	J
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	10	5	
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Krabbe 2/5/96

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Lab ID: 9601G428-004
Sample Date: 01/24/96
Date Received: 01/24/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

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Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday January 25th, 1996

RE: GW-7(30)
Project # 01989-006-004-0000
Lab ID: 9601G428-005
Sample Date: 01/24/96
Date Received: 01/24/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	3	5	J
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	48	5	
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

T. Kosakka 2/5/96

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Project # 01989-006-004-0000
Lab ID: 9601G428-005
Sample Date: 01/24/96
Date Received: 01/24/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	6	5	
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	21	5	
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L Kozlika 2/5/96

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Roy F. Weston, Incorporated
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Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday January 25th, 1996

RE: GW-7(30)
Project # 01989-006-004-0000
Lab ID: 9601G428-005
Sample Date: 01/24/96
Date Received: 01/24/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Weston Environmental Metrics, Inc. (Gulf Coast)
VOLATILES BY GC/MS, HSL LIST

RFW Batch Number: 9601G428 Client: Techalloy Work Order: 01989-006-004-0 Report Date: 01/25/96 10:29 Page: 1a

	Cust ID:	GW-2(D)		GW-2(D)		GW-3(D)		GW-7(15)		GW-7(15)DUP		GW-7(30)	
Sample Information	RFW#:	001		001 DL		002		003		004		005	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1		10		1		1		1		1	
	Units:	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Surrogate Recovery	Toluene-d8	97	%	96	%	88	%	100	%	98	%	98	%
	4-Bromofluorobenzene	107	%	100	%	95	%	103	%	103	%	103	%
	1,2-Dichloroethane-d4	102	%	104	%	94	%	104	%	102	%	102	%
			fl		fl		fl		fl		fl		fl
Chloromethane		10	U	NA		10	U	10	U	10	U	10	U
Bromomethane		10	U	NA		10	U	10	U	10	U	10	U
Vinyl chloride		2	U	NA		2	U	2	U	2	U	2	U
Chloroethane		10	U	NA		10	U	10	U	10	U	10	U
Methylene Chloride		5	U	NA		5	U	5	U	5	U	5	U
Acetone		10	U	NA		10	U	10	U	10	U	10	U
Carbon Disulfide		5	U	NA		5	U	5	U	5	U	5	U
1,1-Dichloroethene		180		NA		22		2	J	2	J	3	J
1,1-Dichloroethane			E	450		58		5	U	5	U	5	U
1,2-Dichloroethene (total)		58		NA		9		5	U	5	U	5	U
Chloroform		5	U	NA		5	U	5	U	5	U	5	U
1,2-Dichloroethane		5	U	NA		5	U	5	U	5	U	5	U
2-Butanone		10	U	NA		10	U	10	U	10	U	10	U
1,1,1-Trichloroethane		130		NA		5	U	28		28		48	
Carbon Tetrachloride		5	U	NA		5	U	5	U	5	U	5	U
Vinyl acetate		10	U	NA		10	U	10	U	10	U	10	U
Bromodichloromethane		5	U	NA		5	U	5	U	5	U	5	U
1,2-Dichloropropane		5	U	NA		5	U	5	U	5	U	5	U
cis-1,3-Dichloropropene		5	U	NA		5	U	5	U	5	U	5	U
Trichloroethene			E	330		8		2	J	3	J	6	
Dibromochloromethane		5	U	NA		5	U	5	U	5	U	5	U
1,1,2-Trichloroethane		2	J	NA		5	U	5	U	5	U	5	U
Benzene		5	U	NA		5	U	5	U	5	U	5	U
trans-1,3-Dichloropropene		5	U	NA		5	U	5	U	5	U	5	U
Bromoform		5	U	NA		5	U	5	U	5	U	5	U
4-Methyl-2-pentanone		10	U	NA		10	U	10	U	10	U	10	U
2-Hexanone		10	U	NA		10	U	10	U	10	U	10	U
Tetrachloroethene		5	U	NA		5	U	10		10		21	
1,1,2,2-Tetrachloroethane		5	U	NA		5	U	5	U	5	U	5	U

*= Outside of EPA CLP QC Limits.

L. Korobka 2/5/96

RFW Batch Number: 9601G428 Client: Techalloy Work Order: 01989-006-004-0 Page: 1b

Cust ID:	GW-2(D)	GW-2(D)	GW-3(D)	GW-7(15)	GW-7(15)DUP	GW-7(30)
RFW#:	001	001 DL	002	003	004	005
Toluene	5 U	NA	5 U	5 U	5 U	5 U
Chlorobenzene	5 U	NA	5 U	5 U	5 U	5 U
Ethylbenzene	5 U	NA	5 U	5 U	5 U	5 U
Styrene	5 U	NA	5 U	5 U	5 U	5 U
Xylene (total)	5 U	NA	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

A. Krabbe 2/5/96

Weston Environmental Metrics, Inc. (Gulf Coast)
VOLATILES BY GC/MS, HSL LIST

RFW Batch Number: 9601G428 Client: Techalloy Work Order: 01989-006-004-0 Report Date: 01/25/96 10:29 Page: 2a

		Cust ID:	VBLK		VBLK BS	
Sample Information		RFW#:	96GVF027-MB1		96GVF027-MB1	
		Matrix:	WATER		WATER	
		D.F.:	1		1	
		Units:	ug/L		ug/L	
	Toluene-d8		97	%	98	%
Surrogate	4-Bromofluorobenzene		106	%	102	%
Recovery	1,2-Dichloroethane-d4		101	%	100	%
Chloromethane			10	U	77	%
Bromomethane			10	U	94	%
Vinyl chloride			2	U	90	%
Chloroethane			10	U	96	%
Methylene Chloride			5	U	93	%
Acetone			10	U	80	%
Carbon Disulfide			5	U	116	%
1,1-Dichloroethene			5	U	120	%
1,1-Dichloroethane			5	U	99	%
1,2-Dichloroethene (total)			5	U	98	%
Chloroform			5	U	100	%
1,2-Dichloroethane			5	U	97	%
2-Butanone			10	U	92	%
1,1,1-Trichloroethane			5	U	101	%
Carbon Tetrachloride			5	U	107	%
Vinyl acetate			10	U	106	%
Bromodichloromethane			5	U	101	%
1,2-Dichloropropane			5	U	100	%
cis-1,3-Dichloropropene			5	U	116	%
Trichloroethene			5	U	96	%
Dibromochloromethane			5	U	101	%
1,1,2-Trichloroethane			5	U	101	%
Benzene			5	U	100	%
trans-1,3-Dichloropropene			5	U	109	%
Bromoform			5	U	101	%
4-Methyl-2-pentanone			10	U	108	%
2-Hexanone			10	U	97	%
Tetrachloroethene			5	U	87	%
1,1,2,2-Tetrachloroethane			5	U	100	%

*= Outside of EPA CLP QC limits.

L. Kolodka 2/5/96

	Cust ID:	VBLK	VBLK BS
	RFW#:	96GVF027-MB1	96GVF027-MB1
Toluene		5 U	99 %
Chlorobenzene		5 U	99 %
Ethylbenzene		5 U	100 %
Styrene		5 U	95 %
Xylene (total)		5 U	92 %

*= Outside of EPA CLP QC limits.

J. Krabbe 2/5/96

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-7(45)
Project # 01989-022-001-9999
Lab ID: 9601G452-003
Sample Date: 01/25/96
Date Received: 01/25/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	20	5	
1,1-Dichloroethane	3	5	J
1,2-Dichloroethene (total)	2	5	J
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	E	5	
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L. Kolodka 2/5/96

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RE: GW-7(45)
Project # 01989-022-001-9999
Lab ID: 9601G452-003
Sample Date: 01/25/96
Date Received: 01/25/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	180	5	
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	150	5	
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Kroleka 2/5/96

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Date: Monday January 29th, 1996

RE: GW-7(45)
Project # 01989-022-001-9999
Lab ID: 9601G452-003
Sample Date: 01/25/96
Date Received: 01/25/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

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Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-7(45)
Project # 01989-022-001-9999
Lab ID: 9601G452-003 DL
Sample Date: 01/25/96
Date Received: 01/25/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,1,1-Trichloroethane	480	50	

2/5/96

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To: Techalloy
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Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-7(60)
Project # 01989-022-001-9999
Lab ID: 9601G452-004
Sample Date: 01/25/96
Date Received: 01/25/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	90	5	
1,1-Dichloroethane	13	5	
1,2-Dichloroethene (total)	9	5	
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	E	5	
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L. Krabbe 2/5/96

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Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-7(60)
Project # 01989-022-001-9999
Lab ID: 9601G452-004
Sample Date: 01/25/96
Date Received: 01/25/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	E	5	
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	1	5	J
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	73	5	
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Krabbe 2/5/96

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Date: Monday January 29th, 1996

RE: GW-7(60)
Project # 01989-022-001-9999
Lab ID: 9601G452-004
Sample Date: 01/25/96
Date Received: 01/25/96
Units: ug/L

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Date: Monday January 29th, 1996

RE: GW-7(60)
Project # 01989-022-001-9999
Lab ID: 9601G452-004 DL
Sample Date: 01/25/96
Date Received: 01/25/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,1,1-Trichloroethane	1300	50	
Trichloroethene	570	50	

L. Robbins 2/5/96

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To: Techalloy
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3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-7(75)
Project # 01989-022-001-9999
Lab ID: 9601G452-005
Sample Date: 01/25/96
Date Received: 01/25/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	13	10	~~B~~ U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	130	5	
1,1-Dichloroethane	180	5	
1,2-Dichloroethene (total)	22	5	
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	E	5	
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L. Kowalke 2/5/96

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Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-7(75)
Project # 01989-022-001-9999
Lab ID: 9601G452-005
Sample Date: 01/25/96
Date Received: 01/25/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	E	5	
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	2	5	J
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	5	5	
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Kordba 2/5/96

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Weston Environmental Metrics, Inc.
2417 Bond Street
University Park, Illinois 60466-3182
Phones: (708) 534-5200 (219) 885-7077 (815) 723-7533
Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-7(75)
Project # 01989-022-001-9999
Lab ID: 9601G452-005
Sample Date: 01/25/96
Date Received: 01/25/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

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Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: GW-7(75)
Project # 01989-022-001-9999
Lab ID: 9601G452-005 DL
Sample Date: 01/25/96
Date Received: 01/25/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,1,1-Trichloroethane	1000	50	
Trichloroethene	1100	50	

2/5/96

Weston Environmental M[illegible]ics, Inc. (Gulf Coast)
VOLATILES BY GC/MS, HSL LIST
Report Date: 01/29/96 15:36

RFW Batch Number: 9601G452 Client: Techalloy Work Order: 01989-022-001-9 Page: 1a

	Cust ID:	GW-4(S)		GW-4(D)		GW-7(45)		GW-7(45)		GW-7(60)		GW-7(60)	
Sample Information	RFW#:	001		002		003		003 DL		004		004 DL	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1		1		1		10		1		10	
	Units:	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Surrogate Recovery	Toluene-d8	97	%	103	%	94	%	107	%	98	%	106	%
	4-Bromofluorobenzene	106	%	106	%	99	%	109	%	102	%	113	%
	1,2-Dichloroethane-d4	104	%	106	%	98	%	108	%	100	%	111	%
			fl		fl		fl		fl		fl		fl
Chloromethane		10	U	10	U	10	U	NA		10	U	NA	
Bromomethane		10	U	10	U	10	U	NA		10	U	NA	
Vinyl chloride		2	U	2	U	2	U	NA		2	U	NA	
Chloroethane		10	U	10	U	10	U	NA		10	U	NA	
Methylene Chloride		5	U	5	U	5	U	NA		5	U	NA	
Acetone		10	U	10	U	10	U	NA		10	U	NA	
Carbon Disulfide		5	U	5	U	5	U	NA		5	U	NA	
1,1-Dichloroethene		5	U	1	J	20		NA		90		NA	
1,1-Dichloroethane		5	U	24		3	J	NA		13		NA	
1,2-Dichloroethene (total)		5	U	9		2	J	NA		9		NA	
Chloroform		5	U	5	U	5	U	NA		5	U	NA	
1,2-Dichloroethane		5	U	5	U	5	U	NA		5	U	NA	
2-Butanone		10	U	10	U	10	U	NA		10	U	NA	
1,1,1-Trichloroethane		8		2	J		E	480			E	1300	
Carbon Tetrachloride		5	U	5	U	5	U	NA		5	U	NA	
Vinyl acetate		10	U	10	U	10	U	NA		10	U	NA	
Bromodichloromethane		5	U	5	U	5	U	NA		5	U	NA	
1,2-Dichloropropane		5	U	5	U	5	U	NA		5	U	NA	
cis-1,3-Dichloropropene		5	U	5	U	5	U	NA		5	U	NA	
Trichloroethene		1	J	2	J	180		NA			E	570	
Dibromochloromethane		5	U	5	U	5	U	NA		5	U	NA	
1,1,2-Trichloroethane		5	U	5	U	5	U	NA		1	J	NA	
Benzene		5	U	5	U	5	U	NA		5	U	NA	
trans-1,3-Dichloropropene		5	U	5	U	5	U	NA		5	U	NA	
Bromoform		5	U	5	U	5	U	NA		5	U	NA	
4-Methyl-2-pentanone		10	U	10	U	10	U	NA		10	U	NA	
2-Hexanone		10	U	10	U	10	U	NA		10	U	NA	
Tetrachloroethene		5	U	5	U	150		NA		73		NA	
1,1,2,2-Tetrachloroethane		5	U	5	U	5	U	NA		5	U	NA	

*= Outside of EPA CLP QC limits.

L Krolka 2/5/96

23

Cust ID:	GW-4(S)	GW-4(D)	GW-7(45)	GW-7(45)	GW-7(60)	GW-7(60)
RFW#:	001	002	003	003 DL	004	004 DL
Toluene	5 U	5 U	5 U	NA	5 U	NA
Chlorobenzene	5 U	5 U	5 U	NA	5 U	NA
Ethylbenzene	5 U	5 U	5 U	NA	5 U	NA
Styrene	5 U	5 U	5 U	NA	5 U	NA
Xylene (total)	5 U	5 U	5 U	NA	5 U	NA

*= Outside of EPA CLP QC limits.

L. Kobbka
2/5/96

25

Sample Information	Cust ID:	GW-7(75)		GW-7(75)		VBLK		VBLK BS		VBLK		VBLK BS	
	RFW#:	005		005 DL		96GVF029-MB1		96GVF029-MB1		96GVF030-MB1		96GVF030-MB1	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1		10		1		1		1		1	
	Units:	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Surrogate Recovery	Toluene-d8	96	%	92	%	102	%	97	%	99	%	91	%
	4-Bromofluorobenzene	101	%	100	%	109	%	100	%	106	%	98	%
	1,2-Dichloroethane-d4	98	%	100	%	104	%	100	%	109	%	95	%
Chloromethane		10	U	NA		10	U	77	%	10	U	82	%
Bromomethane		10	U	NA		10	U	86	%	10	U	96	%
Vinyl chloride		2	U	NA		2	U	88	%	2	U	98	%
Chloroethane		10	U	NA		10	U	90	%	10	U	98	%
Methylene Chloride		5	U	NA		5	U	88	%	5	U	92	%
Acetone		13	~~B~~ U	NA		11		63	%	10	U	84	%
Carbon Disulfide		5	U	NA		5	U	107	%	5	U	116	%
1,1-Dichloroethene		130		NA		5	U	117	%	5	U	118	%
1,1-Dichloroethane		180		NA		5	U	95	%	5	U	98	%
1,2-Dichloroethene (total)		22		NA		5	U	93	%	5	U	95	%
Chloroform		5	U	NA		5	U	93	%	5	U	100	%
1,2-Dichloroethane		5	U	NA		5	U	90	%	5	U	93	%
2-Butanone		10	U	NA		10	U	89	%	10	U	90	%
1,1,1-Trichloroethane			E	1000		5	U	89	%	5	U	103	%
Carbon Tetrachloride		5	U	NA		5	U	94	%	5	U	107	%
Vinyl acetate		10	U	NA		10	U	83	%	10	U	83	%
Bromodichloromethane		5	U	NA		5	U	84	%	5	U	96	%
1,2-Dichloropropane		5	U	NA		5	U	88	%	5	U	98	%
cis-1,3-Dichloropropene		5	U	NA		5	U	97	%	5	U	110	%
Trichloroethene			E	1100		5	U	88	%	5	U	98	%
Dibromochloromethane		5	U	NA		5	U	83	%	5	U	101	%
1,1,2-Trichloroethane		2	J	NA		5	U	81	%	5	U	98	%
Benzene		5	U	NA		5	U	88	%	5	U	99	%
trans-1,3-Dichloropropene		5	U	NA		5	U	94	%	5	U	96	%
Bromoform		5	U	NA		5	U	82	%	5	U	106	%
4-Methyl-2-pentanone		10	U	NA		10	U	90	%	10	U	94	%
2-Hexanone		10	U	NA		10	U	89	%	10	U	94	%
Tetrachloroethene		5		NA		5	U	76	%	5	U	81	%
1,1,2,2-Tetrachloroethane		5	U	NA		5	U	79	%	5	U	87	%

*= Outside of EPA CLP QC limits.

L. Korobka
2/5/96

Cust ID:	GW-7(75)		GW-7(75)		VBLK		VBLK BS		VBLK		VBLK BS	
RFW#:	005		005 DL		96GVF029-MB1		96GVF029-MB1		96GVF030-MB1		96GVF030-MB1	
Toluene	5	U	NA		5	U	88	%	5	U	89	%
Chlorobenzene	5	U	NA		5	U	91	%	5	U	90	%
Ethylbenzene	5	U	NA		5	U	88	%	5	U	93	%
Styrene	5	U	NA		5	U	86	%	5	U	94	%
Xylene (total)	5	U	NA		5	U	84	%	5	U	92	%

*= Outside of EPA CLP QC limits.

L. Krabbe 2/5/96

Weston Environmental Metrics, Inc.
2417 Bond Street
University Park, Illinois 60466-3182
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Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-8(15)
Project # 01989-022-001-9999
Lab ID: 9601G527-001
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L. Kolodka
2/6/96

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Date: Thursday February 1st, 1996

RE: GW-8(15)
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Lab ID: 9601G527-001
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	BRL	5	U
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Kaczka 2/6/96

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Date: Thursday February 1st, 1996

RE: GW-8(15)
Project # 01989-022-001-9999
Lab ID: 9601G527-001
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

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Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-8(30)
Project # 01989-022-001-9999
Lab ID: 9601G527-002
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	7	5	
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L. Krolka 2/6/96

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Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-8(30)
Project # 01989-022-001-9999
Lab ID: 9601G527-002
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	BRL	5	U
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Korabka 2/6/96

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Date: Thursday February 1st, 1996

RE: GW-8(30)
Project # 01989-022-001-9999
Lab ID: 9601G527-002
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

Tentatively Identified Compounds

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Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-8(45)
Project # 01989-022-001-9999
Lab ID: 9601G527-003
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L. Hrabka 2/6/96

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Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-8(45)
Project # 01989-022-001-9999
Lab ID: 9601G527-003
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	BRL	5	U
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Kovalcik 2/16/96

Weston Environmental Metrics, Inc.
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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-8(45)
Project # 01989-022-001-9999
Lab ID: 9601G527-003
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-8(60)
Project # 01989-022-001-9999
Lab ID: 9601G527-004
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

J. Kozubka 2/6/96

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MANAGERS DESIGNERS/CONSULTANTS

Weston Environmental Metrics, Inc.
2417 Bond Street
University Park, Illinois 60466-3182
Phones: (708) 534-5200 (219) 885-7077 (815) 723-7533
Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-8(60)
Project # 01989-022-001-9999
Lab ID: 9601G527-004
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	BRL	5	U
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Krabbe 2/6/96

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-8(60)
Project # 01989-022-001-9999
Lab ID: 9601G527-004
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday February 1st. 1996

RE: GW-8(75)
Project # 01989-022-001-9999
Lab ID: 9601G527-005
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

Y. Kralka 2/6/96

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Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-8(75)
Project # 01989-022-001-9999
Lab ID: 9601G527-005
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	BRL	5	U
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Krakka 2/16/96

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Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-8(75)
Project # 01989-022-001-9999
Lab ID: 9601G527-005
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

Tentatively Identified Compounds

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Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-9(15)
Project # 01989-022-001-9999
Lab ID: 9601G527-006
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L. Kowalska 2/6/96

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Lab ID: 9601G527-006
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	BRL	5	U
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Kosakka 2/6/96

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Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-9(15)
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Lab ID: 9601G527-006
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

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Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-9(30)
Project # 01989-022-001-9999
Lab ID: 9601G527-007
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L Krobka 2/6/96

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To: Techalloy
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Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-9(30)
Project # 01989-022-001-9999
Lab ID: 9601G527-007
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	BRL	5	U
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Hoobler 2/6/96

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Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-9(30)
Project # 01989-022-001-9999
Lab ID: 9601G527-007
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

Tentatively Identified Compounds

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Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-9(30)DUP
Project # 01989-022-001-9999
Lab ID: 9601G527-008
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L. Kolodka 2/6/96

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Attn: Mr. Carlos Serna

Date: Thursday February 1st. 1996

RE: GW-9(30)DUP
Project # 01989-022-001-9999
Lab ID: 9601G527-008
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	BRL	5	U
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

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RE: GW-9(30)DUP
Project # 01989-022-001-9999
Lab ID: 9601G527-008
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

Tentatively Identified Compounds

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-9(45)
Project # 01989-022-001-9999
Lab ID: 9601G527-009
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

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Date: Thursday February 1st, 1996

RE: GW-9(45)
Project # 01989-022-001-9999
Lab ID: 9601G527-009
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	BRL	5	U
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L Koeble 2/16/96

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Date: Thursday February 1st. 1996

RE: GW-9(45)
Project # 01989-022-001-9999
Lab ID: 9601G527-009
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

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Date: Thursday February 1st, 1996

RE: GW-9(60)
Project # 01989-022-001-9999
Lab ID: 9601G527-010
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	1	5	J
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	2	5	J
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L Koralka 2/6/96

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RE: GW-9(60)
Project # 01989-022-001-9999
Lab ID: 9601G527-010
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	BRL	5	U
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L Kaabka 2/6/96

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Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-9(60)
Project # 01989-022-001-9999
Lab ID: 9601G527-010
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

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Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-9(75)
Project # 01989-022-001-9999
Lab ID: 9601G527-011
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	BRL	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	2	5	J
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	2	5	J
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

L. Kolodka 2/6/96

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Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-9(75)
Project # 01989-022-001-9999
Lab ID: 9601G527-011
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	BRL	5	U
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Koralik 2/6/96

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Attn: Mr. Carlos Serna

Date: Thursday February 1st, 1996

RE: GW-9(75)
Project # 01989-022-001-9999
Lab ID: 9601G527-011
Sample Date: 01/31/96
Date Received: 01/31/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Weston Environmental Metrics, Inc. (Gulf Coast)
VOLATILES BY GC/MS, HSL LIST

RFW Batch Number: 9601G527 Client: Techalloy Work Order: 01989-022-001-9 Report Date: 02/01/96 09:40 Page: 1a

	Cust ID:	GW-8(15)		GW-8(30)		GW-8(45)		GW-8(60)		GW-8(75)		GW-9(15)	
Sample Information	RFW#:	001		002		003		004		005		006	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1		1		1		1		1		1	
	Units:	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Surrogate Recovery	Toluene-d8	105	%	107	%	105	%	106	%	107	%	99	%
	4-Bromofluorobenzene	108	%	108	%	107	%	107	%	109	%	104	%
	1,2-Dichloroethane-d4	110	%	110	%	108	%	109	%	110	%	102	%
Chloromethane		10	U	10	U	10	U	10	U	10	U	10	U
Bromomethane		10	U	10	U	10	U	10	U	10	U	10	U
Vinyl chloride		2	U	2	U	2	U	2	U	2	U	2	U
Chloroethane		10	U	10	U	10	U	10	U	10	U	10	U
Methylene Chloride		5	U	5	U	5	U	5	U	5	U	5	U
Acetone		10	U	10	U	10	U	10	U	10	U	10	U
Carbon Disulfide		5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene		5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane		5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethene (total)		5	U	5	U	5	U	5	U	5	U	5	U
Chloroform		5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane		5	U	5	U	5	U	5	U	5	U	5	U
2-Butanone		10	U	10	U	10	U	10	U	10	U	10	U
1,1,1-Trichloroethane		5	U	7		5	U	5	U	5	U	5	U
Carbon Tetrachloride		5	U	5	U	5	U	5	U	5	U	5	U
Vinyl acetate		10	U	10	U	10	U	10	U	10	U	10	U
Bromodichloromethane		5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane		5	U	5	U	5	U	5	U	5	U	5	U
cis-1,3-Dichloropropene		5	U	5	U	5	U	5	U	5	U	5	U
Trichloroethene		5	U	5	U	5	U	5	U	5	U	5	U
Dibromochloromethane		5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane		5	U	5	U	5	U	5	U	5	U	5	U
Benzene		5	U	5	U	5	U	5	U	5	U	5	U
trans-1,3-Dichloropropene		5	U	5	U	5	U	5	U	5	U	5	U
Bromoform		5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-pentanone		10	U	10	U	10	U	10	U	10	U	10	U
2-Hexanone		10	U	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene		5	U	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane		5	U	5	U	5	U	5	U	5	U	5	U

*= Outside of EPA CLP QC limits.

L. Korobka 2/6/96

RFW Batch Number: 9601G527 Client: Techalloy Work Order: 01989-022-001-9 Page 1b

Cust ID:	GW-8(15)	GW-8(30)	GW-8(45)	GW-8(60)	GW-8(75)	GW-9(15)
RFW#:	001	002	003	004	005	006
Toluene	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U
Xylene (total)	5 U	5 U	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

L. Krabbe
2/6/96

40

	Cust ID:	GW-9(30)	GW-9(30)DUP	GW-9(45)	GW-9(60)	GW-9(75)	VBLK
Sample Information	RFW#:	007	008	009	010	011	96GVF037-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1	1	1	1	1	1
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Surrogate Recovery	Toluene-d8	105 %	105 %	105 %	105 %	106 %	102 %
	4-Bromofluorobenzene	103 %	110 %	110 %	105 %	107 %	106 %
	1,2-Dichloroethane-d4	107 %	113 %	114 %	112 %	109 %	105 %
Chloromethane		10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane		10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride		2 U	2 U	2 U	2 U	2 U	2 U
Chloroethane		10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride		5 U	5 U	5 U	5 U	5 U	5 U
Acetone		10 U	10 U	10 U	10 U	10 U	10 U
Carbon Disulfide		5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene		5 U	5 U	5 U	1 J	2 J	5 U
1,1-Dichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene (total)		5 U	5 U	5 U	2 J	2 J	5 U
Chloroform		5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone		10 U	10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride		5 U	5 U	5 U	5 U	5 U	5 U
Vinyl acetate		10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane		5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane		5 U	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene		5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane		5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
Benzene		5 U	5 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U	5 U
Bromoform		5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone		10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone		10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene		5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane		5 U	5 U	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

L. Kobbe 2/6/96

RFW Batch Number: 9601G527 Client: Techalloy Work Order: 01989-022-001-9 Page 2b

Cust ID:	GW-9(30)	GW-9(30)DUP	GW-9(45)	GW-9(60)	GW-9(75)	VBLK
RFW#:	007	008	009	010	011	96GVF037-MB1
Toluene	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U
Xylene (total)	5 U	5 U	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

L. Kosbka
2/6/96

Cust ID: VBLK BS

Sample Information
RFW#: 96GVF037-MB1
Matrix: WATER
D.F.: 1
Units: ug/L

mc 2/11/96

	Toluene-d8	102	%
Surrogate Recovery	4-Bromofluorobenzene	103	% ✓
	1,2-Dichloroethane-d4	102	%
Chloromethane		114 *	%
Bromomethane		112 *	%
Vinyl chloride		119 *	%
Chloroethane		110	%
Methylene Chloride		94	%
Acetone		82	%
Carbon Disulfide		79	%
1,1-Dichloroethene		114	%
1,1-Dichloroethane		94	%
1,2-Dichloroethene (total)		95	%
Chloroform		94	%
1,2-Dichloroethane		92	%
2-Butanone		86	%
1,1,1-Trichloroethane		95	%
Carbon Tetrachloride		100	%
Vinyl acetate		91	%
Bromodichloromethane		97	%
1,2-Dichloropropane		94	%
cis-1,3-Dichloropropene		111	%
Trichloroethene		88	%
Dibromochloromethane		96	%
1,1,2-Trichloroethane		95	%
Benzene		93	%
trans-1,3-Dichloropropene		108	%
Bromoform		98	%
4-Methyl-2-pentanone		98	%
2-Hexanone		96	%
Tetrachloroethene		82	%
1,1,2,2-Tetrachloroethane		94	%

*= Outside of EPA CLP QC limits.

L. Kovalcik 2/16/96

RFW Batch Number: 9601G527 Client: Techalloy Work Order: 01989-022-001-9 Page: 3b

Cust ID: VBLK BS

RFW#: 96GVF037-MB1

43

Toluene	93	%
Chlorobenzene	96	%
Ethylbenzene	97	%
Styrene	92	%
Xylene (total)	92	%

*= Outside of EPA CLP QC limits.

J. Knobbe 2/6/96

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Fax: (708) 534-5211

To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: FB-01
Project # 01989-022-001-0010
Lab ID: 9601G472-003
Sample Date: 01/26/96
Date Received: 01/27/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	11	10	U
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

2/5/96

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RE: FB-01
Project # 01989-022-001-0010
Lab ID: 9601G472-003
Sample Date: 01/26/96
Date Received: 01/27/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	BRL	5	U
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

L. Kralik 2/5/96

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Date: Monday January 29th, 1996

RE: FB-01
Project # 01989-022-001-0010
Lab ID: 9601G472-003
Sample Date: 01/26/96
Date Received: 01/27/96
Units: ug/L

Tentatively Identified Compounds

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To: Techalloy
Roy F. Weston, Incorporated
3 Hawthorn Parkway, Suite 400
Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: TB011596
Project # 01989-022-001-0010
Lab ID: 9601G472-005
Sample Date: 01/26/96
Date Received: 01/27/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	10	U
Bromomethane	BRL	10	U
Vinyl chloride	BRL	2	U
Chloroethane	BRL	10	U
Methylene Chloride	BRL	5	U
Acetone	11	10	
Carbon Disulfide	BRL	5	U
1,1-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
Chloroform	BRL	5	U
1,2-Dichloroethane	BRL	5	U
2-Butanone	BRL	10	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Vinyl acetate	BRL	10	U
Bromodichloromethane	BRL	5	U

2/5/96

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Vernon Hills, IL 60061

Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: TB011596
Project # 01989-022-001-0010
Lab ID: 9601G472-005
Sample Date: 01/26/96
Date Received: 01/27/96
Units: ug/L

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
Trichloroethene	BRL	5	U
Dibromochloromethane	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Benzene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
Bromoform	BRL	5	U
4-Methyl-2-pentanone	BRL	10	U
2-Hexanone	BRL	10	U
Tetrachloroethene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Toluene	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Styrene	BRL	5	U
Xylene (total)	BRL	5	U

2/15/96

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Attn: Mr. Carlos Serna

Date: Monday January 29th, 1996

RE: TB011596
Project # 01989-022-001-0010
Lab ID: 9601G472-005
Sample Date: 01/26/96
Date Received: 01/27/96
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Weston Environmental M[illegible]ics, Inc. (Gulf Coast)
VOLATILES BY GC/MS, HSL LIST
Report Date: 01/29/96 12:14

RFW Batch Number: 9601G472 Client: Techalloy Work Order: 01989-022-001-0 Page: 1a

	Cust ID:	GW-6(S)		GW-6(D)		FB-01		GW-5(15)		TB011596		VBLK	
Sample Information	RFW#:	001		002		003		004		005		96GVF032-MB1	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1		1		1		1		1		1	
	Units:	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Surrogate Recovery	Toluene-d8	91	%	93	%	92	%	89	%	90	%	94	%
	4-Bromofluorobenzene	96	%	93	%	94	%	88	%	92	%	96	%
	1,2-Dichloroethane-d4	101	%	97	%	101	%	95	%	96	%	101	%
Chloromethane		10	U	10	U	10	U	10	U	10	U	10	U
Bromomethane		10	U	10	U	10	U	10	U	10	U	10	U
Vinyl chloride		2	U	2	U	2	U	2	U	2	U	2	U
Chloroethane		10	U	10	U	10	U	10	U	10	U	10	U
Methylene Chloride		5	U	5	U	5	U	5	U	5	U	2	J
Acetone		10	U	10	U	11	u	11	u	11		10	U
Carbon Disulfide		5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene		5	U	5	U	5	U	2	J	5	U	5	U
1,1-Dichloroethane		5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethene (total)		5	U	5	U	5	U	5	U	5	U	5	U
Chloroform		5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane		5	U	5	U	5	U	5	U	5	U	5	U
2-Butanone		10	U	10	U	10	U	10	U	10	U	10	U
1,1,1-Trichloroethane		5	U	5	U	5	U	38		5	U	5	U
Carbon Tetrachloride		5	U	5	U	5	U	5	U	5	U	5	U
Vinyl acetate		10	U	10	U	10	U	10	U	10	U	10	U
Bromodichloromethane		5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane		5	U	5	U	5	U	5	U	5	U	5	U
cis-1,3-Dichloropropene		5	U	5	U	5	U	5	U	5	U	5	U
Trichloroethene		5	U	5	U	5	U	5	U	5	U	5	U
Dibromochloromethane		5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane		5	U	5	U	5	U	5	U	5	U	5	U
Benzene		5	U	5	U	5	U	5	U	5	U	5	U
trans-1,3-Dichloropropene		5	U	5	U	5	U	5	U	5	U	5	U
Bromoform		5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-pentanone		10	U	10	U	10	U	10	U	10	U	10	U
2-Hexanone		10	U	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene		5	U	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane		5	U	5	U	5	U	5	U	5	U	5	U

*= Outside of EPA CLP QC limits.

L. Kowalka 2/5/96

RFW Batch Number: 9601G472 Client: Techalloy Work Order: 01989-022-001-0 Page: 1b

Cust ID:	GW-6(S)	GW-6(D)	FB-01	GW-5(15)	TB011596	VBLK
RFW#:	001	002	003	004	005	96GVF032-MB1
Toluene	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U
Xylene (total)	5 U	5 U	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

L. Krabbe 2/5/96

	Cust ID:	VBLK BS
Sample Information	RFW#:	96GVF032-MB1
	Matrix:	WATER
	D.F.:	1
	Units:	ug/L

Surrogate Recovery	Toluene-d8	92	%
	4-Bromofluorobenzene	91	%
	1,2-Dichloroethane-d4	94	%
Chloromethane		81	%
Bromomethane		95	%
Vinyl chloride		94	%
Chloroethane		98	%
Methylene Chloride		93	%
Acetone		73	%
Carbon Disulfide		120	%
1,1-Dichloroethene		123	%
1,1-Dichloroethane		104	%
1,2-Dichloroethene (total)		99	%
Chloroform		100	%
1,2-Dichloroethane		96	%
2-Butanone		91	%
1,1,1-Trichloroethane		99	%
Carbon Tetrachloride		103	%
Vinyl acetate		93	%
Bromodichloromethane		94	%
1,2-Dichloropropane		95	%
cis-1,3-Dichloropropene		109	%
Trichloroethene		93	%
Dibromochloromethane		93	%
1,1,2-Trichloroethane		96	%
Benzene		98	%
trans-1,3-Dichloropropene		102	%
Bromoform		96	%
4-Methyl-2-pentanone		96	%
2-Hexanone		83	%
Tetrachloroethene		80	%
1,1,2,2-Tetrachloroethane		84	%

* = Outside of EPA CLP QC limits.

K. Krabbe 2/5/96

23

Toluene	90	%
Chlorobenzene	91	%
Ethylbenzene	95	%
Styrene	91	%
Xylene (total)	89	%

*= Outside of EPA CLP QC limits.

L. Kolakowski 2/15/96

W[illegible]N Analytics Use Only
9601647 2

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client: Techalloy Company, Inc.
Est. Final Proj. Sampling Date: 1/31/96
Work Order #: 01989-022-001-0000
Project Contact/Phone #: Carlos/James 24000
AD Project Manager:
QC: Del: TAT:
Date Rec'd: Date Due:
Account #:

Refrigerator #:
#/Type Container: Liquid: 6 Glass; Solid:
Volume: Liquid: 4x3; Solid:
Preservatives: HCl

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN; WESTON Analytics Use Only: 8240

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; Wi - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only
001	GW-6(S)			W	1/24/96	1110	✓
002	GW-6(D)			W		1220	✓
003	FB-01			W		1330	✓
004	GW-5(15')			W	↓	1600	✓
005	TRIP BLANK			W			✓

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
* For login in LIMS. Samples arriving Sat: AM 1/27/96

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

WESTON Analytics Use Only

Samples were: 1) Shipped ___ or Hand Delivered ___ Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N; 2) Unbroken on Outer Package Y or N; 3) Present on Sample Y or N; 4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Relinquished by	Received by	Date	Time
James		1/26/96	

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RFW 21-21-001/A-7/91 L372 L373 L375 L377 L378 Ref# Cooler# 381-596a

JAN-26-1996 14:00 TECHALLOY CO. INC. 815 923 2126 P.01/01

TOTAL P.01

WESTON Analytics Use Only

9601G407

Custody Transfer Record/Lab Work Request

WESTON MANAGERS / DESIGNERS / CONSULTANTS

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Client Techalloy

Est. Final Proj. Sampling Date 1/26/96

Work Order # 01989-022-001

Project Contact/Phone # Carlos/Samuel x4000

AD Project Manager

QC Del TAT

Date Rec'd Date Due

Account #

Refrigerator #		
#/Type Container	Liquid	6 bot
	Solid	
Volume	Liquid	40ml X3
	Solid	
Preservatives		HCl

ANALYSES REQUESTED →

ORGANIC				INORG	
VOA	BNA	Pest/PCB	Herb	Metal	CN
8240					

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only
S - Soil, SE - Sediment, SO - Solid, SL - Sludge, W - Water, O - Oil, A - Air, DS - Drum Solids, DL - Drum Liquids, L - EP/TCLP Leachate, WI - Wipe, X - Other, F - Fish	001	GW-2(S)			W	1/22/96	14:10	✓
	002	GW-3(S)			W	1/23/96	16:15	✓

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

DATE/REVISIONS:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered X
Airbill # _____
2) Ambient or (Chilled)
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or (N)
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or (N)
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or (N)
NOTES:

Relinquished by	Received by	Date	Time
[signature]	[signature]	1/23/96	19:10

Relinquished by	Received by	Date	Time

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

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WESTON Analytics Use Only
9601G428

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

Page 1 of 1

Client: Techalloy
Est. Final Proj. Sampling Date: 1/26/96
Work Order #: 01989-022-001
Project Contact/Phone #: Carlos/James X4000
AD Project Manager:
QC: Del: TAT:
Date Rec'd: Date Due:
Account #:

Refrigerator #		
#/Type Container	Liquid	Glass
	Solid	
Volume	Liquid	40ml x3
	Solid	
Preservatives		HCl

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA (9240)
001	GW-2(D)			W	1/24/96	12:15	✓
002	GW-3(D)			W	↓	13:35	✓
003	GW-7(15)			W	↓	16:25	✓
004	GW-7(15)SP			W	↓	16:25	✓
005	GW-7(30)			W	↓	17:00	✓

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
James	M. Schultz	1/24/96	19:15				

Discrepancies Between Samples Labels and COC Record? Y or (N)
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ✓
Airbill # ___
2) Ambient or (Chilled)
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

COC Tape was:
1) Present on Outer Package Y or (N)
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or (N)
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't (Y) or N

WESTON Analytics Use Only
160/6512

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS CONSULTANTS

Page 1 of 1

Client Tetra Tech Company
Est. Final Proj. Sampling Date 2/1/96
Work Order #
Project Contact/Phone #
AD Project Manager
QC Del TAT
Date Rec'd Date Due
Account #

Refrigerator #		
#/Type Container	Liquid	4 VOA
	Solid	
Volume	Liquid	40-43
	Solid	
Preservatives		HCl

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only (8240 VOA)
001	GW-5 (30')			W	1/30/96	1210	✓
002	GW-5 (45)			W		1250	✓
003	GW-5 (60)			W		1330	✓
004	GW-5 (75)			W	↓	1405	✓

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered X
Airbill #
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
James	[illegible]	1/30/96	1910

Relinquished by	Received by	Date	Time

RFW 21[illegible]01/A-7/91 ___ L372 ___ L373 ___ L37[illegible] ___ L377 ___ L378 Ref# ___ Cooler# ___ 381-596a

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WESTON Analytics Use Only

9601G472

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

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Client: Techalloy Company, Inc.
Est. Final Proj. Sampling Date: 1/31/96
Work Order #: 01989-022-001-0010
Project Contact/Phone #: Carlos/Jameel X4000
AD Project Manager:
QC: Del: TAT:
Date Rec'd: Date Due:
Account #:

Refrigerator #												
#/Type Container	Liquid	Glass										
	Solid											
Volume	Liquid	40x3										
	Solid											
Preservatives		HCl										
ANALYSES REQUESTED →		ORGANIC							INORG			
		VOA	BNA	Pest/PCB	Herb				Metal	CN		

MATRIX CODES: S - Soil, SE - Sediment, SO - Solid, SL - Sludge, W - Water, O - Oil, A - Air, DS - Drum Solids, DL - Drum Liquids, L - EP/TCLP Leachate, WI - Wipe, X - Other, F - Fish

WESTON Analytics Use Only

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA (8240)
001	GW-6(S)			W	1/24/96	1110	✓
002	GW-6(D)			W	↓	1220	✓
003	FB-01			W	↓	1330	✓
004	GW-5(15')			W	↓	1600	✓
005	TRIP BLANK			W			✓

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
* For login on LIMS. Samples arriving Sat: (AM) 1/27/96

DATE/REVISIONS:
1. T.B. prep date 1/15/96
2.
3.
4. 5.9°C
5.
6.

WESTON Analytics Use Only

Samples were: FR
1) Shipped X or Hand Delivered ___
Airbill # ______
2) Ambient or (Chilled)
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

COC Tape was:
1) Present on Outer Package Y or (N) DKas 1/27/96
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or (N)
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't (Y) or N

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Jameel		1/26/96	1730				
	DKKas	1/27/96	1150				

Discrepancies Between Samples Labels and COC Record? Y or (N)
NOTES:

RFW 21-21-001/A-7/91 ___ L372 ___ L373 ___ L375 ___ L377 ___ L378 Ref# ______ Cooler# ______ 381-596a

WESTON Analytics Use Only
9602752

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client: Technology Company
Est. Final Proj. Sampling Date: 1/31/96
Work Order #: 01929-022-001
Project Contact/Phone #: Carlos/Samuel x4000
AD Project Manager:
QC: Del: TAT:
Date Rec'd: Date Due:
Account #:

Refrigerator #:

#/Type Container	Liquid	4
	Solid	
Volume	Liquid	40mlx3
	Solid	
Preservatives		HCl

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN

MATRIX CODES: S - Soil; SB - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only
001	GW-4 (S)			W	1/25/96	15:15	✓
002	GW-4 (D)			W		16:05	✓
003	GW-7 (45)			W		8:40	✓
004	GW-7 (60)			W		9:15	✓
005	GW-7 (85)			W		10:30	✓

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

WESTON Analytics Use Only

Samples were: 1) Shipped ___ or Hand Delivered X
Airbill #
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N; 2) Unbroken on Outer Package Y or N; 3) Present on Sample Y or N; 4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
Samuel	[illegible]	1/25/96	18:50

Relinquished by	Received by	Date	Time

RFW 21[illegible]001/A-7/91 ___ L372 ___ L373 ___ L375 ___ L377 ___ L378 Ref# ___ Cooler# ___ 381-596a

WESTON Analytics Use Only
9601l-527

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

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Client Technology Company
Est. Final Proj. Sampling Date 1/31/96
Work Order # 01789-022-001
Project Contact/Phone # Carlos/Jannel X 4050
AD Project Manager
QC ______ Del ______ TAT ______
Date Rec'd ______ Date Due ______
Account # ______

Refrigerator #		
#/Type Container	Liquid	1 L amb
	Solid	
Volume	Liquid	40 ml x 3
	Solid	
Preservatives		HCl

ANALYSES REQUESTED →

ORGANIC: VOA, BNA, Pest/PCB, Herb
INORG: Metal, CN

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA (8240)
001	GW-8 (15')			W	1/31/96	925	✓
002	GW-8 (30')			↓	↓	1000	✓
003	GW-8 (45')					1030	✓
004	GW-8 (60')					1110	✓
005	GW-8 (75')					1200	✓
006	GW-9 (15')					1355	✓
007	GW-9 (30')					1430	✓
008	GW-9 (30') DUP					1430	✓
009	GW-9 (45)					1510	✓
010	GW-9 (60)					1610	✓
011	GW-9 (75)					17[illegible]	✓

WESTON Analytics Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered X
Airbill # ______
2) Ambient or (Chilled)
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

COC Tape was:
1) Present on Outer Package Y or (N)
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or (N)
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't (Y) or N

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
[signature]	[signature]	1/31	1910				

Discrepancies Between Samples Labels and COC Record? Y or (N)
NOTES:

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ______ Cooler# ______ 381-596a

44

Supple RFI 3/96

GW-01
A'
ROUTE 176
GW-9
~5070 FEET
MILLSTREAM ROAD
GW-4
GW-5
GW-3
UNION ROAD
GW-8
GW-2
GW-7
GW-6
B'
MW-HBR
HIGHBRIDGE ROAD
O'COCK ROAD
PARK STREET
UNION ROAD
ELM STREET
SUNVIEW DRIVE
MW-5D
MW-7
MW-6
MW-5
OLSON ROAD
CLARK STREET
MW-8
HP-01
HP-02
HP-04
MAIN STREET
MW-2
MW-9
JOHNSON STREET
HP-06
BG-06
MW-4
MW-3
MW-10
CP-11
B
TECHALLOY PLANT
WAYNE STREET
CP-03
MW-11
CP-12
CP-13
MW-1
NATIONAL STREET
DEPOT STREET
PUMP TEST WELL
CHICAGO AND NORTHWESTERN RAILROAD
A
OBSERVATION WELL
JEFFERSON STREET
NORTHROP ROAD

N

0 400'
SCALE

LEGEND

- EXISTING MONITORING WELLS
- GEOPROBE GROUNDWATER SAMPLE LOCATION (RFI STUDY AUGUST 1994)
- LEAD SCREEN AUGER GROUNDWATER SAMPLING (DECEMBER 1995 & JANUARY 1996)

FIGURE 3-3

WESTON MANAGERS DESIGNERS/CONSULTANTS
Three Hawthorn Parkway
Vernon Hills, Illinois
60061

LOCATION OF GEOLOGIC CROSS SECTION
TECHALLOY COMPANY, INC.
Union, Illinois

TAD-03/22/96-13:43-J:\CAD93\000\04996

Supple RFI

GW-01 ND

ROUTE 176

GW-9
1,1 DCE=2J
1,2 DCE=2J

~5070 FEET

MILLSTREAM ROAD

GW-4
1,1 DCA=24
1,2 DCE=9

GW-5
1,1 DCE=~~180~~ 21
1,2 DCA=~~450~~ 5
1,1 TCA=30 30
TCE=23 23

MCL
7
5
200
5

GW-3
1,1 DCE=22
1,1 DCA=58
1,2 DCE=9
TCE=8

GW-8
ND

GW-2
1,1 DCE=180
1,1 DCA=450
1,2 DCE=58
TCA=130
TCE=330

GW-6
ND

GW-7
1,1 DCE=130
1,1 DCA=180
1,2 DCE=22
TCA=1,000
TCE=1,100
PCE=5

UNION ROAD

MW-HBR

HIGHBRIDGE ROAD

O'COCK ROAD

PARK STREET

UNION ROAD

ELM STREET

SUNVIEW DRIVE

CLARK STREET

MAIN STREET

JOHNSON STREET

WAYNE STREET

NATIONAL STREET

DEPOT STREET

CHICAGO AND NORTHWESTERN RAILROAD

NORTHROP ROAD

JEFFERSON STREET

OLSON ROAD

TCA=120
TCE=110

MW-5D

MW-7

MW-6

MW-5

TCA=400
TCE=42
PCE=94

MW-8

HP-01

HP-02

HP-04

MW-2

MW-9

HP-06

BG-06

MW-4

MW-3

MW-10

CP-11

CP-03

MW-11

CP-12

CP-13

TCA=20
PCE=5J

TECHALLOY
PLANT

MW-1

PUMP TEST
WELL

OBSERVATION
WELL ND

Supple REI
Supplemental 3/96

Treatment

Pipeline

Well

shallow zone

VOC 2400 ppb

N

0 400'
SCALE

LEGEND

- EXISTING MONITORING WELLS
- GEOPROBE GROUNDWATER SAMPLE LOCATION (RFI STUDY AUGUST 1994)
- LEAD SCREEN AUGER GROUNDWATER SAMPLING (DECEMBER 1995 & JANUARY 1996)

ND = NON-DETECTABLE LEVEL
1,1 DCE = DICHLOROETHENE
1,1 DCA = DICHLOROETHANE
1,2 DCE = DICHLOROETHENE (TOTAL)
TCA = 1,1,1-TRICHLOROETHANE
TCE = TRICHLOROETHENE
PCE = TETRACHLOROETHENE

ALL CONCENTRATIONS IN ug/L (ppb)
MCL = MAXIMUM CONTAMINANT LEVEL; U.S.EPA DRINKING WATER STANDARDS, MAY 1995

VOC PLUME EXCEEDING MCL

FIGURE 3-2

WESTON MANAGERS DESIGNERS/CONSULTANTS
Three Hawthorn Parkway
Vernon Hills, Illinois
60061

VOCs IN DEEP GROUNDWATER SAMPLES
TECHALLOY COMPANY, INC.
Union, Illinois

TAD-03/22/96-13:49-J:\CAD93\000\04996